# AMERICAN GAS ASSOCIATION MONTHLY

Vol. VII No. 9

SEPTEMBER, 1925

October
12
to
16
Atlantic City

See Page 531 for Details of the

**Seventh Annual Convention**
**American Gas Association**
**October 12-16, Atlantic City, N. J.**

*A Few Reasons Why You Should*

# ATTEND THE CONVENTION

*Because—*

¶ It is THE ONE CONVENTION of all gas conventions that have ever been held that you can least afford to miss. WE'RE ALL GOING!

¶ It is the one time of the year when you can meet the men who are doing your work in other parts of the country, from top to bottom, on a equal footing without sending in your card. The gas man, without a colleague in town, is said to be the lonesomest being in the world. SNAP OUT OF IT!

¶ In other years we have talked about the past and argued about the present. Now is our chance to learn about the future from the men who are making it. THEY'LL BE THERE!

¶ More new activities have been undertaken or discussed this year than all the past five years put together. THERE'S A REASON!

¶ The evolution of the gas industry from a local to a great national business has made ACTIVE participation in Association work a NECESSITY. PITCH IN!

¶ Competition among gas men for new ideas, new economies and new opportunities has never been so keen. DON'T LAG BEHIND!

The Annual Convention is a great clearing house for these as well as for

Good Fellowship,

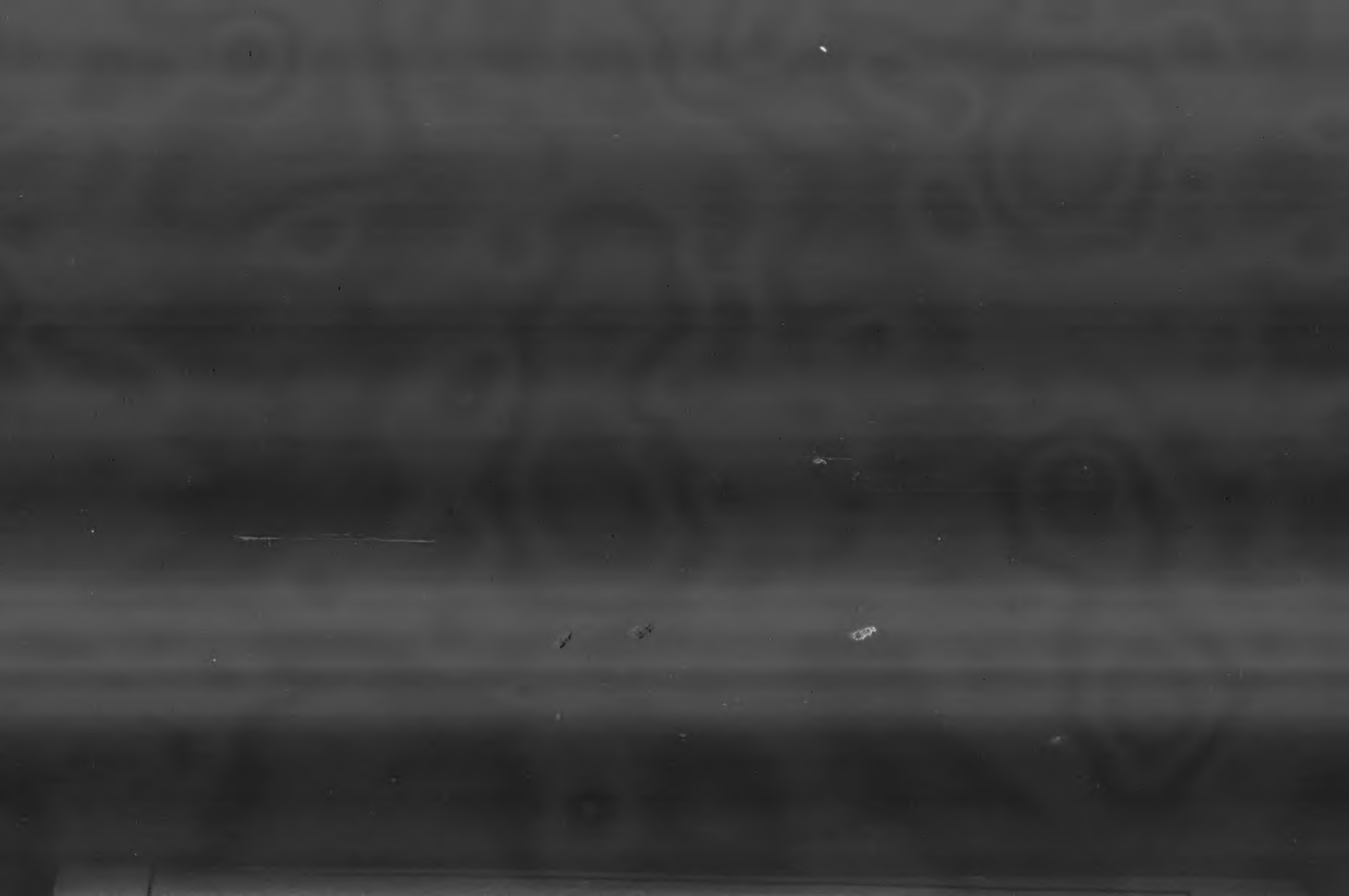
Good Times, and

All Good Things To Remember.

Check the date—OCTOBER 12-16.

Check the place—ATLANTIC CITY, N. J.

For Complete Details Turn to Pages 531-541.



# AMERICAN GAS ASSOCIATION MONTHLY

342 MADISON AVENUE, NEW YORK, N. Y.



HENRY OBERMEYER

*Editor*

**Advisory Committee**

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H. C. CLARK — E. F. GARDINER



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*SUBSCRIPTION RATE* — *$3.00 PER YEAR*



For statements and opinions contained in papers and discussions appearing herein, the Association does not hold itself responsible.



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# Our Own Who's Who

## IV.

## R. B. BROWN

BORN July 23, 1875, at Roselle, N. J., educated at Public Schools, Machinists' Trade, Lehigh University, M.E. 1894; Cadet Engineer, East River Gas Company, New York; Employed by Newark, N. J., Gas Company; American Gas Company as General Superintendent; Milwaukee Gas Light Company as Engineer, General Manager, and Vice-President; Built Plants as Consulting Engineer, at Lowell, Worcester, Salt Lake City, Rockford, Chester, St. Louis, East St. Louis, etc.; President, Wisconsin Gas Association; Vice-President, American Gas Institute; Vice-President and President, American Gas Association; First Chairman Calorimetry Committee, A. G. I.; Director, A. G. A.; Member, A. S. M. E., Wisconsin Utilities Association, American Institute Illuminating Engineers, Milwaukee Society of Engineers.

# AMERICAN GAS ASSOCIATION MONTHLY

Vol. VII SEPTEMBER, 1925 No. 9


## The Advertising Value of Gas Fuel

By H. H. CLARK, Industrial Gas Engineer, The Peoples Gas Light & Coke Co., Chicago, Ill.

A Traveling Testimonial.

AS an example of advertising value I will relate the following incident which was brought to my attention, not long ago, in which an effort was being made to sell gas to a foundry for annealing steel castings. The electric people and the gas company had both submitted propositions, and the gas man's guarantee was $1.50 per ton lower than that of the electric people. Much to the surprise of the gas man, the foundryman decided to put in the electric furnaces. His explanation was that, even though the electric cost would be $1.50 per ton more than gas, he was willing to pay that much for the advertising value of electricity.

The gas man told him he was making a mistake and that gas would soon have advertising value as a heating agent greater than electricity. He replied that, when one of his customers came in and asked for a gas heat-treated casting, he would be glad to put in a gas-fired furnace, but at the present time electricity was years ahead of gas in advertising value.

Industrial users of electric heat are proud of the fact that they use it, and they advertise it, but this may react to their disadvantage when the public begins to realize that electric heat is expensive in cost and wasteful of our natural resources.

Gas, on the other hand, has all of the advantages of electric heat and one advantage that electric heat has not, namely, only one-fourth as much coal is used at the gas works to produce and deliver a unit of useful heat to a customer as is used in the electric generating station to produce and deliver the same amount of useful heat to the customer.

Gas users should be proud of the fact that they are helping to conserve our natural resources, coal and oil. These valuable raw fuels deliver only half of their energy in the form of useful heat when burned as raw fuels, but when converted into gas at a modern gas plant and

burned by the industrial users in a modern furnace, they go more than twice as far, and in addition valuable by-products are recovered such as fertilizers, liquid fuels, drugs, dyes, etc.

The electric people have not one basic, economic or scientific fact to stand on in their endeavor to market electricity for heat. The gas man has everything in his favor, yet what is the advertising value of gas compared to electricity?

The gas industry is to blame for this condition; confidence and advertising will cure it.

The use of gas fuel in industries is a mark of distinction. It classifies users as progressive, up-to-date, wide-awake business men.

Gas fuel used in modern industrial plants is proof of good judgment in promoting satisfactory employe relations. Heating operations become largely automatic. Furnace rooms become clean and comfortable and desirable places in which to work. The health efficiency of employes is improved, all of which yields greater output.

Gas fuel insures uniformity of product, which promotes satisfied customers and continued patronage. It insures uniformity at low cost, which is another important item.

Gas puts the fuel problem in the hands of the gas company, and leaves the industrial plant executive with more time to devote to his own product.

In selecting gas fuel for factory heating processes, the executive has at once available a refined superfuel at a moderate cost. Gas has advantages possessed by no other fuel; in

---

**THE future growth of gas companies will be tremendous.**

**Gas companies should be doing four times as much business as they are now doing in their present communities. The business is there.**

**A general average of all the business being done by gas companies in the United States selling manufactured gas would show that they are now doing about 50 per cent of the domestic business, such as cooking, lighting, water heating, laundry, etc.; less than 1 per cent of the househeating; 70 per cent of the commercial business, such as restaurants, hotels, bakeries, candy shops, garages, newspapers, etc.; and about 10 per cent of the industrial business, such as foundries, steel treaters, auto factories, glass plants, enameling plants, packing houses, etc.**

**This is a very encouraging prediction about the future of the gas business. Because much of this is high load-factor business, and as some of it can be obtained with special off-peak rates, it means that we will increase our present sales per customer about four times and only have to double our present investment to do it.**

**Gas men, be enthusiastic about your business!—HORACE H. CLARK.**

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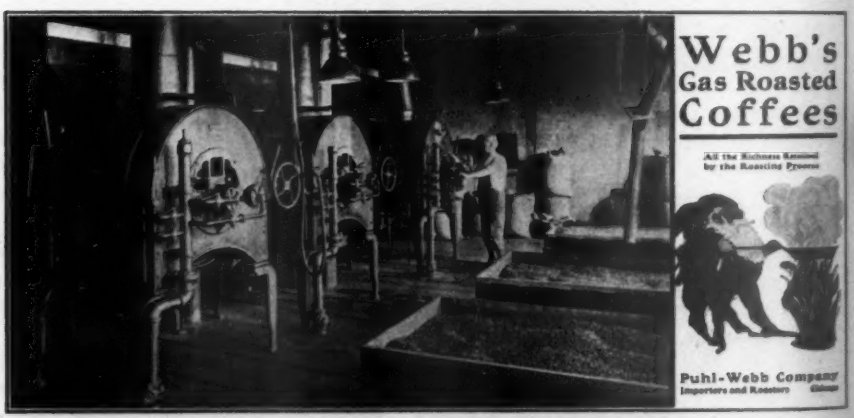



**"PROCESS" ADVERTISING IS EFFECTIVE ADVERTISING.**
**Today's Buying Public Is Interested in the Way Its Products Are Made.**

Crabbe & Seaton Company
Chicago

George D. Wilkinson, President

January 5
1 9 2 4

Mr. H. H. Clark,
The Peoples Gas Light & Coke Company,
525 Peoples Gas Building,
C h i c a g o.

Dear Mr. Clark:

Am returning herewith your paper on the American Ceramic Society.

I read this over very carefully and think that you have covered the matter very accurately as well as completely, and glad to confirm everything it contains.

We are sold on the advantages and convenience of gas fired furnaces of this type for burning on vitreous enamel, and as soon as any of our present coal muffle furnaces are down, it is our intention to add another intermittent gas furnace, which we believe will take the place of these two coal furnaces of the same dimensions.

Your paper touched mainly on the production and fuel costs, but in our opinion the real savings and advantages of this type furnace are in the continuity of service and the quick and accurate control of temperatures.

With kindest regards,

Yours very truly,

GDW:SD ;President.

**If It is True That "Gas Does All Things Best," Buyers Will Be Influenced Accordingly.**

fact all fuels must be converted to gas before their energy in the form of heat is available. If this conversion takes place in an industrial furnace, a low efficiency is obtained.

The gas company, with its many years of experience, is the best place for converting other forms of energy, such as coal and oil, into gas.

The trouble with the gas men has been that they thought their work ended when they made a good job of producing the super-fuel, gas. That thought has cost the gas man millions of dollars in income, because he has neglected to properly market his product.

His brother, the natural gas man, has not helped him any either, because, having a natural product, he sold it at a ridiculously low price, so low that it invited wasteful use. Some of these wasteful methods and obsolete gas furnaces are still in existence and are thought by some to be representative of modern gas furnaces, but such is not the case.

The time is soon coming, in fact it is here in some industries now, when a manufacturer will be proud of the fact that he is a user of gas in his processes. This fact alone will be worth thousands of dollars in advertising value.

The buying public are quick to realize that quality goods are the best in the long run, and it is a well-known fact that gas fuel guarantees quality goods.

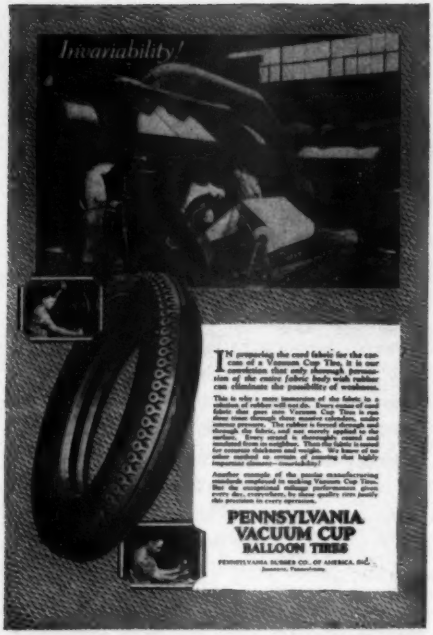
The advertising program, which the Industrial Gas Section of the American Gas Association is carrying on, will go a long way to acquaint the public with the achievements and value of gas as a fuel. There are many romantic and spectacular achievements in the use of gas fuel, but we have failed in the past to let the public know about them. The gas man needs to boast a little; other people do it.

The electric people have a slogan, "Do It Electrically", but we know, when applied to a heating process, it should be "Do It Expensively."

The gas man's slogan is "If It's Done with Heat, You Can Do it Better with Gas." Not only can you do it better, but, everything considered, gas does the work at a lower cost.

Gas men should be proud of their progress to date in the heating field, and they should impress on their customers that their use of gas fuel is a mark of progress and good judgment which instantly classifies their product as having been made with a super-fuel at the lowest possible cost consistent with highest quality.

**Where the Fuel Helps to Sell the Product.**

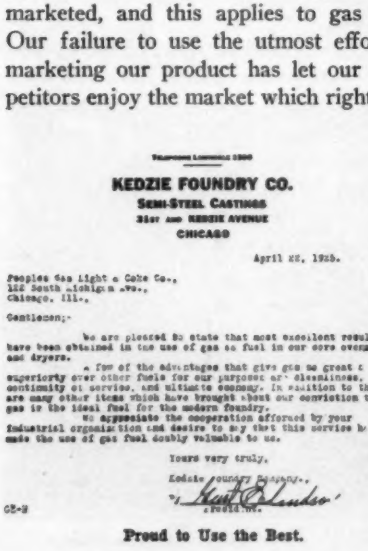



**Here Is the Kind of "Process" Advertising That Should Be Applied to Gas. Manufacturers Are Not Slow to Realize Its Value.**

Every article of manufacture, no matter how necessary to mankind, must be marketed, and this applies to gas fuel. Our failure to use the utmost effort in marketing our product has let our competitors enjoy the market which rightfully belongs to us. Let us advertise the fact that "If It's Done with Heat, You Can Do It Better with Gas", and that gas, the super-fuel, has no equal, and that users of gas fuel in industries are the most progressive.

Every gas man should have faith in the gas industry and be proud of the fact he is part of it, and he should be convinced that the growth of the industry in the future will be far greater than in the past. He should not only have this feeling at heart, but he should let every one that he meets know of it.

Be enthusiastic about your business!



KEDZIE FOUNDRY CO.
SEMI-STEEL CASTINGS
31st and KEDZIE AVENUE
CHICAGO

April 22, 1925.

Peoples Gas Light & Coke Co.,
122 South Michigan Ave.,
Chicago, Ill.,

Gentlemen:-

We are pleased to state that most excellent results have been obtained in the use of gas as fuel in our core ovens and dryers.

A few of the advantages that give gas so great a superiority over other fuels for our purposes are: cleanliness, continuity of service, and ultimate economy. In addition to these, there are many other items which have brought about our conviction that gas is the ideal fuel for the modern foundry.

We appreciate the cooperation afforded by your industrial organization and desire to say that this service has made the use of gas fuel doubly valuable to us.

Yours very truly,

Kedzie Foundry Company,

By Kurt O. Lindsay
President.

CE-2

**Proud to Use the Best.**

## Sees Great Future For A. G. A. Laboratory

AMONG the national co-operative movements of great interest to the merchandisers of gas appliances may be mentioned the great appliance testing laboratory now being placed in commission by the American Gas Association," said E. L. Hall, president of the Pacific Coast Gas Association, which met in Portland, Oregon, on August 17th. "In passing, the Pacific Coast may take pride in the fact that a Portland man, R. M. Conner, has been chosen to head this laboratory.

"The national association is also undertaking, through a special committee, a study of the appliance specifications, according to which standards the testing laboratory will rate all appliances submitted for examination. One cannot help but become enthused regarding the great progress of the industry which will be made possible by the rapid development of appliances that is sure to follow such a constructive program.

"Better appliances, safer appliances, more convenient appliances, will double and triple merchandising gas apparatus for the home, restaurant and the factory.

"At the same time, these efforts will be accompanied by national publicity on a tremendous scale, for which large appropriations have already been made by the American Gas Association."

# The Inside Story of a Successful Customer Ownership Campaign

## In Which All Selling Was Done by Employes Without Commissions or Bonuses

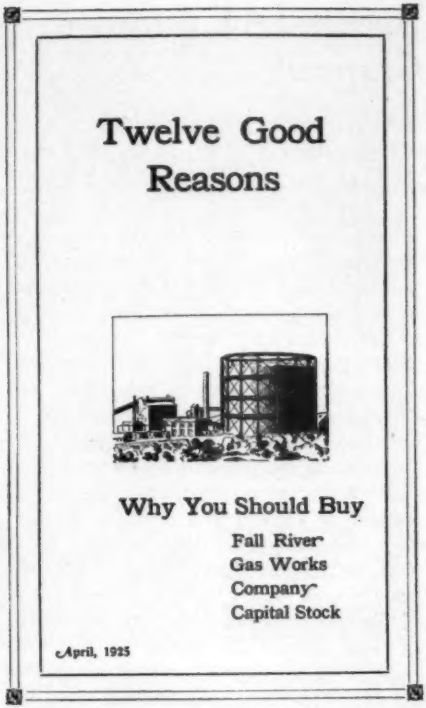
By HERMAN KOCH, JR., Advertising Manager, Fall River Gas Works Co., Fall River, Mass.

ANY company serving a city the size of Fall River who wants to get distribution of its stock among employes and customers primarily for the good will that will result from such a sale, may find something of value in the recent experience of the Fall River Gas Works Company who offered and sold 2400 shares of capital stock within three days to customers and employes. Where similar conditions are met, we believe the methods pursued may be profitably followed.

We had always recognized the desirability of greater distribution of stock among employes and customers, but since all new issues of stock had to be offered, according to law, first to existing stockholders, and they had always availed themselves of their rights to buy each new issue, little or none had been left for others. Our opportunity came with an amended law of the Commonwealth last year under which our company was finally able to issue an amount of new stock not exceeding four per cent of its outstanding stock. On March 6, 1924, the Public Utilities Commission approved our petition to issue 2400 additional shares of capital stock to be offered to customers and employes of the company at the price of $50 a share.

With the stock thus available it was decided to offer it first to employes, and then to customers. It is evident, however, as figures showed, that there was not enough stock in this issue to go around. That is to say, the population of Fall River was about 135,000, the number of meters in service as of December 31, 1924, was 30,811, and the number of our employes was 250, whereas there were but 2400 shares to be distributed. In order, therefore, to get as

A Corner of the Fall River Plant and the Homes of a Few Customer-Owners.




**How the Townsfolk Learned a Few Things About Their Company.**

wide a distribution as possible we believed it necessary to limit every subscriber to five shares as a maximum. This meant that, if everyone subscribing took five shares, we would have 480 new stockholders, but as it was probable that there would be many orders for one and two shares, particularly among our employes, we believed that we would get more than 480. In fact we estimated from 600 to 700.

### THE TIME PAYMENT POLICY

The payment policy adopted was that of requiring each subscriber to pay for this stock by time payments, $5 down and $5 a month per share until the stock had been paid for, at the end of which time the stock certificate would be issued to him to do with as he wished. Our reason for this in the first place was to prevent speculation, for we were offering this new additional issue at $50 a share, whereas in the market at that time 56 was being bid and 58 asked.

Furthermore a ruling was established which allowed only those customers whose names appeared on our ledgers, as such to subscribe for this stock. Of course it was perfectly possible for any one to buy the stock for someone else and transfer ownership later and this would offset our purpose which was, as yours would be, to have the customer or employe purchaser retain the stock himself. But we had to take this chance and did so in the belief that, as the subscriber got used to paying for the stock, by the time he received the certificate, he would want to hold on to it. The fact that he could do with it as he wished after he received the certificate added to the attraction of the investment.

Another feature of the time payment

An Investment Opportunity For Our Customers
We have mailed to our customers today a circular and descriptive matter, explaining how they may become stockholders in this company. We are offering to customers whose names are on our books and to our employees, 2400 shares of the Capital Stock of Fall River Gas Works Company.
It has long been our desire to offer such an opportunity to the people of Fall River who are receiving gas service. As a customer you are entitled to service which meets your needs for heat and light, but we believe you will appreciate this offer to share in the profits and the ownership of this company. We are giving Fall River a service which has become a necessary convenience, but we wish to go even further and allow our customers to become a part of this organization.
A yield of 6% at the present rate on a good investment
The circular will describe in detail the nature of the business, the condition of the company and its progress. A smaller pamphlet will give you twelve reasons for buying this stock and an order blank and return envelope, the chance to place your order through the mail. If you do not receive this information before Wednesday, call at this office and we shall be glad to give it to you. If you have any questions about the stock, call 6300 and ask for the stock desk.
The price is $50 per share to be paid for in ten monthly installments of $5 each and every purchaser is limited to five shares. This is to distribute the stock as widely as possible and give more of our customers a chance to purchase.
We suggest that you place your order as soon as possible as the number of shares is limited.
Fall River Herald, News, Globe, Independent, & Bulletin, Monday, March 30, 1925
Fall River Gas Works Company
155 North Main Street
Telephone 6300

**Ads Like This Sell Good Will as Well as Stock.**

policy was that the stock could be paid for out of current earnings, and this fitted in with the general practice today of buying things on the installment plan. Furthermore there was little danger of competing with the savings banks for, since the stock could not be bought outright, there was no possibility of anyone drawing out a large sum of money to reinvest in our securities. As far as the banks were concerned, however, we wrote each of them a letter telling them what we were going to do, and offering the customary 1 per cent commission. Subsequently, however, no sale was traceable directly to a bank, though we were advised that some customers consulted their local bankers before making this investment, and that the banks put in a good word for us.

### SELLING THROUGH EMPLOYES

In selling this stock through our employes, to whom we offered no commission, we were particularly favored in one respect—the loyalty of our men and women. Without this, of course, it might not be possible to match our success, unless some commission is offered. In regard to selling through our employes this sale brought out one very important point. It showed how strong were the contacts formed with customers by the collectors and other men in the Accounting Department who, as a group, sold more stock than any other group of employes.

In order to better allocate our potential sales efforts to the fullest advantage, we tried to determine beforehand the period over which the sale would probably extend. At first we thought about two weeks would be sufficient and had a tacit understanding in this regard, but in our literature and advertising no definite time was set. We believed that just before the point of full subscription was reached, we could cease all sales activities and thus prevent any considerable over-subscription. To protect ourselves

GAS CO.'S ISSUE OF STOCK IS FAR OVER-SUBSCRIBED

Applications for Fall River Gas Works Co. capital stock resulted in an over-subscription before the close of business last night. The new additional issue comprised 2400 shares of stock and yesterday the company received over-subscriptions amounting to 26 shares. Orders continued to [illegible] this morning, both by

A Happy Ending That Settled All Doubts.

against misunderstanding with subscribers in case of over-subscription and consequent disappointment for some, we included the words "Subject to Allotment" on each order and in our literature.

In all our literature and advertising we maintained a very conservative tone —certainly the most appropriate for a public utility whose stocks or bonds are considered mainly from the investment angle.

A stock circular, prepared along the lines of the ordinary stock circular, contained a brief history of our company and a description of its physical properties, and called attention to the growth of business over a period of ten years, 1914 to 1924, by giving in table form the figures on customers' gas meters, cubic feet of gas made, gross earnings, and net earnings after operating expenses and taxes. This large circular also contained an outline of our future prospects together with a description of the new stock issue.

A small circular advancing "Twelve

**Remittance Slip**
**And Summary of Collections**
**For Sale of Capital Stock of Fall River Gas Works Co.**

Date_____1925

| NAME | ADDRESS | NO. OF SHARES | AMOUNT Collected |
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| | | | |
| TOTAL | | | |

Received

Salesman

Captain

Cashier

**One of the Forms Used by Employe Salesmen.**

Good Reasons" for buying this capital stock was also prepared.

In all our literature no statement was made which we were not sure we could back up.

In organizing our personnel for the campaign a general committee was formed with C. C. Curtis, vice-president and manager, as a chairman, and W. K. Eavenson, sales manager, as active manager of the campaign. This committee was composed of the heads of departments and several others. A sub-committee was appointed to consider the material that would appear in our literature and to decide upon the forms to be used.

In order to work up a little sales competition the employes in each department were divided into teams of 25 to 35 each and records of daily sales by each team were kept on a centralized blackboard.

During three weeks previous to the sale frequent meetings were held with employes, coming a few days apart, in order to build up interest. A careful explanation was made of what we were trying to do in issuing the stock thus, and plenty of opportunity was given for answering whatever questions arose. No attempt was made to force them to buy the stock themselves. We stressed, however, the necessity for being conservative in all statements regarding this stock and urged them to say nothing unless their statements were backed by facts and to promise nothing unless they knew their promises could be fulfilled.

If we had had more stock to offer we would have attempted meanwhile to obtain more publicity in the newspapers. As it was, an item appeared during each of the three weeks previous to the opening of the campaign and tied in naturally with the regular news items, such, for example, as the news story of a bowling banquet at which Mr. Curtis explained the new issue of stock. A resumé of this explanation appeared next day as an integral part of the story on the bowling dinner.

### USE OF THE MAILS

Two days before the sale officially opened to customers, that is, on the day the stock was first offered to employes, an envelope was mailed to everyone of our customers enclosing a letter from Mr. Curtis, together with four other pieces, namely, the large stock circular, the small pamphlet giving "Twelve Good Reasons" for purchasing the stock, an order blank and an unstamped return envelope. A similar letter had been sent previously to each of our employes. The letter to employes, however, went more into the details of our reasons for issuing the stock.

All this material was prepared and printed in a week and a half. If we were doing the same thing again we would try to allow more time for this work.

Some may wonder why, with only 2400 shares available for 30,000 customers and 250 employes, we sent out this literature to all our customers. In the first place we did so to give everyone an equal opportunity to subscribe and, sec-

ondly, we believed that although some would not subscribe, they would all read over the literature and get a better idea of the operations of their gas company than they had had heretofore. It offered us a wonderful opportunity to send our story into every home and thus go a step further in the establishment of good will.

As a matter of history, the campaign lasted three days, ending with an over-subscription on April 1st, the first day on which the sale officially opened to customers. During the first two days, that is, on Monday and Thursday, March 30th and 31st, employes were given an opportunity to subscribe and took 433 shares, thus leaving 1967 shares available for customers on April 1st. Orders from customers, meanwhile, had already begun to come in both by mail and by personal calls. These orders, together with those received during the morning of April 1st, covered most of the available stock and we had to stop all sales effort that very first day at noon. By closing time the issue had been over-subscribed and orders coming in during the following days swelled the over-subscription.

### AN ANALYSIS OF RESULTS

An analysis of our results showed that we obtained a very good distribution of our stock. The 2400 shares were divided among 619 people. One hundred and seventy-three employes averaged 2½ shares apiece, whereas 446 customers averaged 4½ shares each. Of the shares sold to customers, our employes were responsible for selling 961 shares, 731 shares being sold at the stock desk in the office and 275 shares by mail. In other words, about half the stock sold to customers was sold direct through our employes, none of whom received any commission.

We experienced very little unfavorable reaction to the time-payment policy. To be sure many people came in prepared to pay for the stock in full, but when we explained to them that the stock was to be purchased only on time payments, most of them very willingly accepted it on that basis, but of course there were a few who refused to take the stock since they could not pay for it in full. In almost every case subscribers seemed glad of the opportunity to own the stock despite what some of them termed a slight inconvenience.

Often a subscriber in taking five shares wished to know if there was any possible way by which he could obtain more stock, and the frequency of this attitude, together with the fact that 356 out of 446 customer subscribers subscribed for the limit (five shares) leads us to believe that we could have sold a great deal more stock, had it been available, with the same amount of sales effort.

The number of customers who took us into their confidence, told us their family troubles and their problems of investment, and looked to us for their solution, was surprisingly large and often indicated the real degree of their faith in our stability and honesty.

When, following the sale, we investigated, through use of the directory, the position in the community held by each one of our subscribers to determine what sort of people we had gained as stockholders, we found a very wide diversification of all classes covering nearly every profession and business, from the lowest to the highest. This investigation showed us that our stock had reached the hands of the person we wanted to have own it—the average man.

On the day following that first day on which the stock was over-subscribed, we broadcasted notice of over-subscription to prevent further orders from coming in. Many orders, however, arrived by mail, and over 100 people visited the office during the next few days eager to subscribe; but all these we were forced to turn down because of over-subscription.

In making the allotments after the sale our work was somewhat simplified because of our ruling, which had been previously published, that only those customers whose names appeared on our ledgers at the time were privileged to buy this stock. On going over the orders that had been received, we found that many had been submitted by people who were not on our books as customers. It was discovered also that there were orders in the name of business concerns whose owners had also subscribed for stock under their residence meters. Those who were not customers were advised by letter that we could not fill their orders. The business concerns were requested, and agreed, to withdraw their orders. Thus stock, which we had at first thought was subscribed for, was released to fill the orders of legitimate subscribers. In this way the over-subscription was adjusted.

After the final allotment was made, a letter was sent out to everyone who had submitted an order advising him either that we had filled his order or that we had been unable to do so on account of over-subscription.

### THE COST OF THE CAMPAIGN

The cost of conducting this campaign was $1725.99, which closely approximated our estimate. The largest individual item was $727.93 for the large two-cent stamped envelopes which we sent to our customers with enclosures. The amount of money spent for newspaper advertising, which ran in each of five local newspapers for three days, March 30th to April 2nd, amounted to $192.28. The space used the second day approximated a quarter page, that used on the other three days being somewhat smaller.

The amount of stock we had available could doubtless have been sold at a lower cost, as is shown by the number of subscribers we had to turn away, but a little more time would have been required. The benefit of getting this information about our company into the hands of our customers, however, was more than worth what might have been saved. The fact that this additional work was done with about the same amount of effort that would have been expended anyway is an extra saving that is worthy of consideration.

As for the forms used there is one that stands out as particularly useful. The one we have in mind, the "Reminder Slip and Receipt" form used by the Accounting Department in collecting monthly payments, has proven very efficient. This form functions in the same way as a regular monthly bill. It is of the same size, and can be run through the addressograph so that the name shows through a window envelope. Blank spaces showing the sequence of payment, the amount due, and the date on which the payment is due, can be easily filled in with rubber stamps. The coupon attached, with perforation, gives the amount due and has a blank space for duplicating the name and address on the addressograph machine. It is a very simple matter to get these out each month.

Order blanks for employes were prepared in two forms, one of which allowed them to make payments in the same manner as customers, the other specifying that payments were to be deducted from their salary. Eighty-eight per cent of our employe subscribers filled out their orders on the second blank, preferring to have the payments deducted from their pay twice a month.

The form used by our employes in selling stock was merely a receipt for first payment which they signed and turned in with the cash collected, giving the attached coupon as a receipt to the purchaser. A second form used by employe salesmen was a "Remittance Slip and Summary of Collections" which he handed in to his team captain at the close of each day and on which appeared a list of the subscribers to whom he had sold stock, their addresses, the number of

shares each purchased, and the amount collected. This remittance slip was made out in triplicate so that the salesman, the team captain, and the cashier could each retain a copy as a matter of record and for the purpose of a receipt.

The only other form employed was a small slip used by the captains of each team for reporting the day's results, on which appeared the number of subscribers—classed as employes or customers—and the number of shares sold in totals only. This form was used so that the campaign manager could keep closely in touch with the progress of the sale and be ready to stop sales effort as the point of full subscription was approached.

The quickness of the response to this offering was doubtless due to the close co-ordination of all our efforts together with the fact that the conditions of sale carried a broad appeal. The frequent meetings with employes had aroused their feeling of responsibility and participation and, as a result, they in turn interested customers during the week or so previous to the sale. In this way, as well as through the news items, customers were given some time before the opening of the sale to deliberate on the wisdom of making this investment.

The conditions of sale surrounding the offering were such as to appeal both to the man of modest means who would be willing to take one share and to others to whom $250 (covering the limit—five shares) would be an insignificant amount.

The acceptance of this stock on the time-payment plan, aside from all other considerations mentioned above, showed that many people were willing to assume a responsibility for the investment of part of their potential earnings. This practice is bound to have a happy effect upon the subscriber and establishes a precedent for future investments of a similar nature by just the kind of man whose influence is most sought by the modern public utility.

In looking back over this campaign three things stand out rather clearly as being influential in our success. First there was the careful consideration given by the committee to the plans for the campaign before any move was made, so that possible difficulties could be anticipated in the early stages. Secondly, we had the full co-operation of our employes, whose only incentive in carrying the story to customers was their loyalty to the company. And last, and most important, the public had confidence in us, and needed only the stimulus of this sale to express their good will, of which their immediate response gave ample and gratifying evidence.

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## IDEAL BASEMENT CONTEST

**P. Donald Horgan, Winner of First Prize.**

CHICAGO ARCHITECTS were given a problem in a recent contest conducted by the Architects and Builders Service of the Peoples Gas Light & Coke Company. They were given the labor-saving, clean, efficient devices for the home, around which the Peoples Gas Stores organization builds its business; these appliances, together with the architect's ability to design and construct, were combined in a contest for the best gas-equipped basement for a home.

Three hundred and twenty entries were made and many very fine drawings were received.

The prize-winning drawings are now on exhibition in the Michigan Avenue windows of the Peoples Gas Building and have been published in a book under the title, "More Than a Basement."

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## In Memoriam

*Charles J. Fox, Philadelphia Suburban Gas and Electric Co., Darby, Pa.*

# Our Ambassadors to the Public

## Meet Them at the National Conference on Public Utility Information, Atlantic City, October 15 and 16, During the Convention

By ALEXANDER FORWARD

OUR pride of parentage, because of the fact that the gas industry gave birth to the state committees on public utility information, would not exist were it not justified by the record of these committees. Our Executive Board and the gas companies have, along with other branches of the public service, given the movement continuous support.

I do not hesitate to say that public relations work has received its greatest impetus from these committees. It is their duty to give to the American people the true story of the public service. They receive the direction of the ablest executives and of men who have, besides, the local or sectional information with which to adapt the national viewpoint.

The active men in the field deal in facts. The modern newspaper man, beset as he is every minute from all sides with those who desire to use the press to tell their story, sees more quickly and more clearly than anyone else the difference between news and propaganda. The chairmen of our committees not only know this, but in addition they are selected because they are the type of men who tell the truth. They have the confidence of the editors and other avenues of public information in the thirty-six states where the twenty-eight committees on public utility information operate. We would have, at best, a very poor tie-up between national organizations and the local field but for these committees.

Those who seek to make public utilities a target for their own ends formerly had the field of publicity to themselves. They have it no longer.

Recognizing the vital nature of this activity, the American Gas Association has arranged to give a leading place on its program during the Annual Convention in Atlantic City in October to a National Conference on Public Utility Information. Many of the strongest executives in the industry will be present, and some of them will give the conference the benefit of their views and experience by means of addresses, while others will take part in the discussions which follow. The information men in the field will be expected to take full part in all discussions.

The central idea of this year's convention, carried into all of its general and sectional programs, will be "The Future of the Gas Industry." Since our future is largely bound up in public information as a vital factor in public relations, the plan of the convention would be gravely lacking without adequate consideration of the work of this great agency.

# Group Education as a Means to Better Public Service

By D. C. MITCHELL, Educational Department, Consolidated Gas, Electric Light and Power Company of Baltimore

D. C. Mitchell

GROUP educational work as conducted by the Consolidated Gas Electric Light and Power Co. of Baltimore is a means for stimulating thought among employes and a medium for transfer of ideas about the company's business. The discussions of company, departmental and general matters, for which opportunity is given in group meetings, brings about better coordination of effort, greater loyalty to the company, desirable orientation, and results in good fellowship and better public service.

Group work began in this company about fifteen years ago, when departmental meetings were held in the gas division. Later, in 1915-16, under the N. E. L. A. Section, meetings were held covering nearly every department in the company. When the Employes' Association, known as the Baltimore Gas and Electric Association was formed, group work was transferred to it and was carried on under the auspices of the Employes' Association until the establishment of the Educational Department, May 12, 1924. Group work was then transferred to the Educational Department.

The group work organization is now headed by a member of the Educational Department, under the supervision of the educational director. For advice and counsel in relation to group work and all educational matters of the company, there is also an educational and training committee, which consists of the commercial manager, the employment and personnel manager and the educational director.

The company is divided into six branches such as "Public Relations", "Electric Technical", "Gas Manufacturing", "Vocational", etc. A branch chairman, a regular employe of the company, is appointed to supervise the work in each branch.

The branches are divided into groups, by departments and vocations. Chairmen are appointed for each group. They plan the meetings, secure the speakers, and are responsible for all work within their group. The group chairmen appoint secretaries whose duties are to keep records of attendance, including credits earned by group members for participation in meetings, minutes, etc. The personnel of the

Joint Meeting of Branch Chairmen and Members of the Educational Department.

organization is changed annually, in order to develop leadership among the newer employes of the company.

The following groups will be organized next fall according to present plans:

*Vocational Branch*

1. Juniors—Boys
2. Secretarial and Stenographic
3. Lighting Layout
4. Health Dept. and B. G. & E. A. Dept. of Welfare
5. Organization Heads, including Department Heads
6. Training Representatives
7. Foremen with possible divisions as to locations

**Gas Manufacturing Group of the Baltimore Consolidated Company.**

8. Electric Student Apprentices
9. Safety

*Public Relations Branch*

1. Application
2. General Service
3. Collection
4. Credit
5. Meter Readers
6. Billing & Balancing
7. Merchandise
8. Industrial Fuel
9. Industrial Power
10. Colored

*Accounting and Financial Branch*

1. Accounting
2. Auditing & Inventory
3. Purchasing
4. Financial & Investment
5. Printing
6. Tabulating
7. Operating Clerical-Electric, Paymasters Payroll
8. Construction Accounting and Statistical
9. Accounting Service
10. Operating Stores

*Gas Distribution Branch*

1. General
2. Street
3. Meter Repair
4. Clerical
5. Colored

*Gas Manufacturing Branch*

1. Gas Manufacturing
2. Laboratory—Gas and Chemical Engineering
3. Colored

*Electric Technical Branch*

1. Transportation
2. Electric Engineering & Construction
3. Electric Stations
4. Steam Stations

Meetings are held regularly once a month from October to April inclusive in each group. Special meetings are held whenever necessary. Inspection trips of company plants and industrial plants of the city are provided for in the plan. Company employes, members of other organizations, college professors and out-of-town men address the groups on pertinent subjects. Moving pictures and lantern slides are often utilized for effectiveness. The Educational Department has a Brayco projector and expects to make films of our own organization in the near future.

It has been found that planning the programs of all meetings for the year in advance gives best results. In order to encourage this, special credit is given in the group chairman's prize offer for advance schedules of meetings, in addition to furnishing each chairman with a list of suitable topics and a skeleton plan for the year, covering two orientational, one inspirational, two departmental and two general meetings.

All meetings are held after company hours or during lunch periods. The company's cafeterias are very desirable meeting places. In addition to the cafeterias, there are two group meeting rooms which seat 100 and 30 respectively, and the library, which can be used in an emergency and will seat about 50 people. Outside halls are rented for general meetings, when the expected attendance is larger than any of the company's quarters can accommodate.

Group work is financed through a budget system. The management appropriates a flat sum of money for the carrying on of group educational work. Each group chairman is allowed forty cents for

**Safety Meeting Demonstrating Prone Pressure Method of Resuscitation.**

each person attending. It is his responsibility and duty to estimate his attendance and regulate his expenditures accordingly. This allowance does not cover all the expenses. The costs of printing special announcements, operating moving picture machines, etc., are carried as overhead. The total cost per attendant is about fifty-six cents.

All expenditures must be approved by the educational director, but the manner in which the allowance is spent is not questioned except in extreme cases. The allowance per attendant may be used for cigars, cigarettes, candy, meals, cash for suppers outside, transportation and entertainment.

### ENCOURAGING ATTENDANCE

There are two prize offers to employes who attend group meetings:

1. Participation in Group Meetings
   Prizes of $5.00 for first and $2.50 for second will be given to the two persons in each group, as outlined by the branch chairman, who accumulate the greatest number of points over 100, figured on the following basis.
   - 10 points for attendance.
   - 5 points for each pertinent question.
   - 10 points for discussion.
   - 20 points for best discussion during meeting.

   Department heads and group chairmen not considered eligible for this prize.
2. Group Chairmen's Prize
   Prizes of $25.00, $15.00 and $10.00 will be awarded to the three group chairmen making the best showing under the following plan:
   1. Two points for an acceptable plan, submitted in writing before October 23rd, for all seven meetings.
   2. One point for getting in each announcement in definite shape before the 20th of the month preceding the meeting.
   3. One point for getting written minutes and credits for each meeting to the Educational Department within four days.
   4. Ten debits for each month's meeting not held.
   5. One-tenth point for each percentum over fifty as shown by the percentage for each meeting, of the actual attendance to announced maximum eligible attendance; or for groups under twenty-five eligibles, one-twentieth point.

Pamphlets showing day and date of meeting, name of subject and speaker, and location where meeting will be held are sent to employes monthly. Comments on previous meetings, descriptive matter about meetings scheduled, and a general statement of progress in group work form the body of the pamphlet. Special notices of meetings are posted on bulletin boards, and sometimes special letters are sent to various persons within the organization calling attention to particular meetings.

During the year 1924-5, 195 meetings were held with a total of 12,061 attendance.

Employes attend and participate in these meetings whole-heartedly and consider them vital and important in relation to their work. The responsibility is theirs for making them a success. They do the planning, and are responsible for all the details.

One outstanding event in 1924-5, a direct result of group work, was the invention of an appliance which will be a boon to many workers. The details will probably be announced when patent rights are granted.

The company supports this educational work, because the personnel is drawn closer together through these group meetings, and because they give opportunity to present and discuss new methods and policies of common interest, and often kill false rumors through the presentation of facts. Through the inspection trips, employes learn to know the company better and are lead to realize its responsibility to the public. Through outside speakers, they learn of outside industrial conditions and can keep pace with events in the industrial world. The programs for group work aim to develop and create intelligent, loyal and efficient employes who not only have the company's interest at heart but the understanding which enables them to give better public service.

# Manufacturers Swell List of Members

WITH the Seventh Annual Convention and its Exhibit in immediate prospect, it was to be expected that a number of manufacturers whose products are largely used in the gas industry would apply for membership in the Association. The increase of manufacturer membership is one of the best, if not *the* best, bits of testimony as to the growth of the industry that could possibly be found.

The following eleven manufacturing companies and eleven individuals were added to membership in the Association during the past month:

| Manufacturer Company Members | |
|---|---|
| Arca Regulators. Inc. | New York, N. Y. |
| Niagara Water Heater Co., Inc. | Buffalo, N. Y. |
| The Chapman Valve Mfg. Co. | Indian Orchard, Mass. |
| The Dunham Co. | Berea, Ohio. |
| General Motors Truck Co. | Pontiac, Mich. |
| Ingersoll-Rand Co. | New York, N. Y. |
| The Linde Air Products Co. | New York, N. Y. |
| The Parsons Co. | Newton, Iowa. |
| Public Service Production Co. | Newark, N. J. |
| Sweet & Doyle Foundry & Machine Co. | Troy, (Green Island) N. Y. |
| U. S. Tool Co., Inc. | Ampere, N. J. |

| Individuals | |
|---|---|
| East, Howard Terhune | Public Service Co. of Northern Illinois, Chicago, Ill. |
| Harvey, Lyle Clifford | Illinois Power & Light Corp., Chicago, Ill. |
| Head, Guerdon H. | Wisconsin Gas & Electric Co., Racine, Wisc. |
| Hoffman, Richard Curzon, Jr. | Standard Gas Equipment Corp., New York, N. Y. |
| Jone, J. Frank | Battle Creek Gas Co., Battle Creek, Mich. |
| Lutz, Charles G. | Allentown-Bethlehem Gas Co., Allentown, Pa. |
| Mills, Alfred Henry | Knoxville Gas Co., Knoxville, Tenn. |
| Pichard, Ben. F. | Southern Gas & Power Corp., Greensboro, N. C. |
| Poust, Grover Cleveland | Wyandotte County Gas Co., Kansas City, Kans. |
| Sedwick, H. P. | Public Service Co. of Northern Illinois, Chicago, Ill. |
| Viebrock, John J. | Consolidated Gas Co. of N. Y., New York, N. Y. |

# Prize Offered for Industrial Gas Students

IN the August issue of the MONTHLY an announcement was made of the course in industrial gas engineering which will be given in New York for two weeks beginning Sept. 21. To make the course more attractive to the men who take it and to encourage keeping a complete and comprehensive set of notes, the Robbins Publishing Company, publishers of *Gas Age-Record* and *Industrial Gas*, have offered a prize of twenty-five dollars to the student who keeps the best set of notes and from them writes the best papers on "What the Industrial Gas Course Taught Me."

The conditions of this offer are all included in the following letter:

August 4, 1925.

Mr. J. P. Leinroth, Chairman Committee on Education of Industrial Gas Salesmen, Industrial Gas Section, American Gas Association, 342 Madison Avenue, New York City

Dear Mr. Leinroth:

Appreciating the need for and the excellent work your committee is doing in connection with the two weeks' course for industrial sales engineers to be held in New York, Sept. 21, we are anxious to do everything possible to further this good work.

In this connection, the Robbins Publishing Company wishes to announce a prize of twenty-five (25) dollars to be given to the student attending this course who writes the best story of his impressions of the course.

The conditions of this contest are that the title be "What the Industrial Gas Course Taught Me," and that it be over 2500 and less than 5000 words in length. The story should be typewritten on one side of the page only and must be in our office by Nov. 1 at the latest. A clear grasp of the various subjects presented will be the main determining factor in this contest.

The prize-winning paper will be published in *Gas Age-Record* and it is hoped that local pride will result in gas company executives encouraging their men attending this class to enter the contest in order that a maximum of good be realized from the course.

I suggest that you, as chairman of the Committee on Education of Industrial Gas Salesmen, appoint a committee to pass upon the prize-winning paper.

Yours very truly,
ROBBINS PUBLISHNG COMPANY, INC.,
J. H. Moore, Gen. Mgr.

This course will cover thoroughly all of the points on which an industrial gas salesman needs instruction.

## *Here It Is!*

# All About the Convention of Conventions

THE famous Steel Pier of Atlantic City, enlarged and improved after a disastrous fire which nearly destroyed a considerable portion of the waterfront last winter, will again be the scene of the Annual Convention and Exhibition of the American Gas Association to be held this year from October 12 to 16.

The general sessions of the Convention will be held in the Music Hall, which is architecturally beautiful and well adapted acoustically for large meetings. The remainder of the Pier, with the exception of a beautiful, newly built meeting room, Casino Hall, will be used, as last year, for the housing of exhibits covering every phase of the gas industry.

While first and foremost attention is being given to the business sessions and exhibits of the Convention, there is also ample assurance that the entertainment program will prove equally attractive during those hours not devoted to the actual business of the Convention.

The Entertainment Committee has planned a particularly elaborate program this year. From the very start our members and guests will find some feature to attract them. Our dancers, and they seem to be in the majority, will revel for three nights in the music and rhythm of Vincent Lopez's twenty-piece orchestra. Those who have heard this music, either at a dance or over the radio, know that there is none better.

There will be other features as well, the nature of which cannot be divulged at the present time. No tickets will be sold or required this year for any of the entertainment or other features of the Convention. It has been decided that a registration fee of $2 will be sufficient to cover all such activities, admission to be by Convention Badge only.

The principal entertainment features on the program will include:

*Tuesday evening, October 13*—On this evening will be held the President's Reception in the large ballroom at the Ocean End of the Steel Pier. The reception will be from 9 to 10 o'clock, followed by dancing to Vincent Lopez's music.

*Wednesday afternoon, October 14*—The Association will entertain as their

**The Steel Pier at Night—"Glorifying the American Gas Man."**

For Those Who Can't Leave It Alone.

guests the ladies attending the Convention at a luncheon at 1 o'clock in the Submarine Grill of the Hotel Traymore. This will be followed by cards in the Rose Room of the hotel.

*Wednesday evening, October 14*—Following the adjournment of the Public Relations Symposium, which will be held in the Auditorium, second floor, boardwalk front of the Steel Pier, there will be general dancing in the large ballroom at the ocean end of the Pier. Again Vincent Lopez's music will guide the dancing feet of our members and guests.

*Thursday evening, October 15*—The Committee has arranged for this evening a most original form of entertainment which it has named "Monte Carlo Night." The Association's members and guests have never enjoyed just such an event, and they are urged to be present when the doors open at 9 p.m. in the large ballroom, ocean end of the Steel Pier. It will be amusement for old and young alike, and it will also include another few hours of dancing with Vincent Lopez.

*Golfing*—As in previous years, the Committee has been enabled to arrange, through the courtesy of C. H. Geist, for golfing privileges for our members and guests at the famous Seaview Golf Club. To enjoy these, all that needs to be done is to obtain a letter of introduction at the Registration Desk. These golfing privileges are from Monday, October 12th to Friday, October 16th inclusive. The regular greens fees, etc., will be charged.

Although Atlantic City is in no sense new to the American Gas Association, nevertheless there are, everywhere, evident changes which have been made since the 1924 meeting and which will be immediately apparent to all those who attend the Convention in October. Several of the large boardwalk hotels have recently completed new additions, and at least two of the better hotels off the boardwalk have done likewise.

To those members of the A. G. A. who availed themselves of the splendid hospitality which was everywhere evident at the several annual conventions which have been held in Atlantic City in years past, the present announcement concerning this year's Convention in this delightful seaside resort must certainly arouse some very pleasant anticipations. The demands for exhibition space have been much greater than in previous years, and all indications are that the Seventh Convention will far exceed those that have preceded in point of attendance and importance to the industry.

**VISIT THE ACCOUNTING SECTION EXHIBIT—BOOTHS 553-554-555-556**

**Two unique exhibits, the character of which cannot be divulged at this time, will be made. Don't fail to see them. Open daily, 9 a.m. to 6 p.m., October 12-16.**

The following advance program of general and sectional meetings of the Convention has been prepared for the MONTHLY. This program is published as a matter of information to our readers and is to be regarded as only tentative. Final programs will be distributed during registration in Atlantic City.

# A. G. A. 1925 CONVENTION PROGRAM

## First General Session

(Convention Hall—Ocean end of Steel Pier)

Tuesday Morning, October 13, ten o'clock

| | |
|---|---|
| Opening Remarks | President H. C. Abell,<br>Electric Bond & Share Co.,<br>New York, N. Y. |
| Report | Secretary-Manager, Alexander Forward |
| Address | "The Present Problems of the Gas Industry,"<br>R. M. Searle, President,<br>Rochester Gas & Electric Corp.,<br>Rochester, N. Y. |
| President's Address | "The Association's Contribution to the Development of the Gas Industry." |
| Address | "Raw Materials of the Future,"<br>Henry L. Doherty, President,<br>H. L. Doherty & Co.,<br>New York, N. Y. |
| Address | "Probable Adjustments in Manufacturing Processes to Meet Needs of Future,"<br>Horace C. Porter,<br>Philadelphia, Pa. |
| Report | Nominating Committee,<br>R. B. Harper, Chairman,<br>The Peoples Gas Light & Coke Co.,<br>Chicago, Ill. |
| Election Report | Consolidated Report of General Committees,<br>Secretary-Manager Alexander Forward |
| Executive Session | (Only Company Member Delegates Eligible to Attend)<br>Election of Company Members<br>Election of Directors<br>Election of 1926 Nominating Committee<br>Election of Committee on Resolutions<br>Election of Active Individual Members |

## Second General Session

Wednesday Morning, October 14, ten o'clock

| | |
|---|---|
| Address | "Educating the Future Employe,"<br>W. Griffin Gribbel, Chairman,<br>Committee on Co-operation with Educational Institutions |
| Address | "Is the Gas Company Ready to Accept the Responsibility of Entering the Fuel Field in Competition with other Fuels?"<br>Henry O. Loebell,<br>Combustion Utilities Corp.,<br>New York, N. Y.<br>(For Industrial Section) |
| Address | "Uniting all Agencies to Promote Safety,"<br>Charles B. Scott, Chairman,<br>Accident Prevention Committee,<br>Chicago, Ill. |
| Presentation Award of 1924, A. G. A. Meritorious Service, McCarter and Beal Medals | |
| Address | "The Public Utility Information Committees and the Gas Industry of Tomorrow."<br>The Executive's Viewpoint (speaker to be announced)<br>The Director's Viewpoint,—J. S. S. Richardson,<br>Director, Pennsylvania Public Service Information Committee.<br>(For the Publicity and Advertising Section) |
| Address | "Nationalizing the Gas Industry for Sales Effort,"<br>Prof. Geo. Burton Hotchkiss, Chairman,<br>Department of Marketing,<br>New York University<br>New York, N. Y.<br>(For the Commercial Section) |

PUBLIC RELATIONS SYMPOSIUM

(Auditorium, Second Floor, Steel Pier, Boardwalk Front)

Wednesday Evening, October 14, nine o'clock

*Presiding*

H. C. Abell, President
American Gas Association
New York, N. Y.

| | |
|---|---|
| Address | "Good Public Relations—A Commissioner's Viewpoint," (Speaker to be Announced) |
| Address | "Our Greatest Market—The Home," Mrs. Anna J. Peterson, The Peoples Gas Light & Coke Co., Chicago, Ill. |

(To be followed by dancing in the Convention Hall, ocean end of the Steel Pier at 10:00 P. M.)

THIRD GENERAL SESSION

Thursday Morning, October 15, ten o'clock

| | |
|---|---|
| Address | "Educating the Present Employe," B. J. Mullaney, Chairman, Committee on Education of Gas Company Employes, Chicago, Ill. |
| Address | "Selling a Proper Rate Structure," Ewald Haase, Chairman, Rate Structure Committee, Milwaukee, Wis. |
| Address | "Rates for Industrial Gas," T. V. Purcell, The Peoples Gas Light & Coke Co., Chicago, Ill. |
| Address | "Financing for the Future—Effect of Customer and Employe Ownership," Frank H. Scheel, Vice-President, Utilities Securities Co., Chicago, Ill. (For the Accounting Section) |
| Address | "What National Advertising Can Do For the Industry," Herbert A. Groth, Chicago, Ill. (For the Manufacturers Section) |
| Report | Time and Place Committee (1926 Meeting) A. P. Lathrop, Chairman, American Light & Traction Co., New York, N. Y. |
| Closing Remarks | |

ACCOUNTING SECTION

(Vernon Room—Haddon Hall)

Tuesday Afternoon, October 13, two o'clock

| | |
|---|---|
| Opening Remarks and Report of Chairman | Chairman H. C. Davidson, Consolidated Gas Co. of New York, New York, N. Y. |
| Report | Nominating Committee, W. A. Sauer, Chairman, The Peoples Gas Light & Coke Co., Chicago, Ill. |
| Election Report | Exhibit Committee, P. D. Warren, Chairman, The Peoples Gas Light & Coke Co., Chicago, Ill. |

Report — Committee on Relations with Customers,
W. A. Doering, Chairman,
Boston Consolidated Gas Co.,
Boston, Mass.
1. Gas Company Standards in Treating with Customers,
R. F. Bonsall, Chairman,
Cons. Gas Electric Light & Power Co.,
Baltimore, Md.
2. The Gas Company and the Telephone,
J. M. Roberts, Chairman,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.
3. Gas Company Contacts Through Customer and Employe Ownership,
C. R. Stull, Chairman,
American Gas Co.,
Philadelphia, Pa.

Wednesday Afternoon, October 14, two o'clock

Report — Committee on Analysis of Gas Company Statistics,
H. J. LaWall, Chairman,
The United Gas Improvement Co.,
Philadelphia, Pa.
1. Development of a Cost System for Gas Companies,
R. H. Knowlton, Chairman,
The United Gas Improvement Co.,
Philadelphia, Pa.
2. Standardization of Questionnaires,
G. S. Cremer, Chairman,
The Brooklyn Union Gas Co.,
Brooklyn, N. Y.

Paper — "The Public Utility Purchasing Agent,"
J. M. Knowles,
Consolidated Gas Co. of New York,
New York, N. Y.

Report — Insurance Committee,
J. G. Reese, Chairman,
Cons. Gas Electric Light & Power Co.,
Baltimore, Md.

Report — Committee on Uniform Classification of Accounts,
W. J. Meyers, Chairman,
The United Electric Light & Power Co.,
New York, N. Y.

Thursday Afternoon, October 15, two o'clock

Report — Committee on Customers Accounting,
J. L. Conover, Chairman,
Public Service Electric & Gas Co.,
Newark, N. J.

Report — Committee on Undistributed Structural Costs,
J. J. Blanchfield, Chairman,
The Brooklyn Union Gas Co.,
Brooklyn, N. Y.

Report — State Representatives Committee,
A. L. Tossell, Chairman,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.

COMMERCIAL SECTION

(Convention Hall, Ocean End, Steel Pier)

Tuesday Afternoon, October 13, two o'clock

Opening Remarks — Chairman James P. Hanlan,
Public Service Electric & Gas Co.,
Newark, N. J.

Address "The Job Ahead in Selling,"
Robert J. Canniff, Chairman,
Sales Stimulation Committee,
Central Hudson Gas & Electric Co.,
Poughkeepsie, N. Y.

Address "Organizing the Sales Department,"
Prof. Melvin T. Copeland, Director,
Bureau of Business Research,
Harvard Graduate School of Business Administration,
Cambridge, Mass.

Address "Developments in Home Service,"
Miss Ada Bessie Swann, Chairman,
Home Service Committee,
Public Service Electric & Gas Co.,
Newark, N. J.

Address "Direct-Mail Advertising,"
Homer J. Buckley, President,
Advertising Council,
Chicago Association of Commerce,
Chicago, Ill.

Address "The Commercial Significance of the A. G. A. Laboratory,"
R. M. Conner, Director,
A. G. A. Testing Laboratory,
Cleveland, Ohio

Address "Selling House Heating,"
(Speaker to be Announced.)

Address "Setting Sales Quotas,"
Wm. Gould, Commercial Manager,
Gas & Electric Improvement Co.,
Boston, Mass.

Wednesday Afternoon, October 14, two o'clock

Address "Refrigeration by Gas, Why and How,"
H. D. Valentine, Chairman,
Refrigeration by Gas Committee,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.

Address "Keeping Women Sold on Gas,"
Dr. C. H. Goudiss, Editor,
Forecast Magazine,
New York, N. Y.

Address "Selling Gas to the Architects,"
W. A. Adams, Chairman,
Architects and Builders Service Committee,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.

Address "What the Architect Needs from You,"
S. F. Voorhees, Chairman,
Committee New York Chapter,
American Institute of Architects,
New York, N. Y.

Address "Progress in House Heating,"
E. P. Bailey, Jr., Chairman,
House Heating Committee,
The Bryant Heater & Manufacturing Co.,
Cleveland, Ohio

Address "Window and Store Display,"
George Smith, Display Manager,
U. S. Rubber Co.,
New York, N. Y.

Address "Selling Direct to Customers,"
Martin J. Pierce,
The Hoover Vacuum Sweeper Co.,
New York, N. Y.

Thursday Afternoon, October 15, 2 o'clock

This afternoon, by request of many members of the Commercial Section, will be given over to an official inspection of the exhibit. The Home Service Committee will have special demonstrations for this occasion at their exhibit booths.

INDUSTRIAL GAS SECTION

(Music Room—Chalfonte Hotel)

Tuesday Afternoon, October 13, two o'clock

Opening Remarks — Chairman, H. O. Loebell, Combustion Utilities Corp., New York, N. Y.

Report — Nominating Committee, H. H. Clark, Chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Election

Report — Policy Committee, F. F. Cauley, Chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Report — Survey Committee, R. E. Ramsay, Chairman, The United Gas Improvement Co., Philadelphia, Pa.

Paper — "Gas vs. Competing Fuels," D. W. Chapman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Wednesday Afternoon, October 14, two o'clock

Paper — "Wholesaling Gas—Organizing a Department to Sell Gas in Wholesale Quantities," H. H. Clark, The Peoples Gas Light & Coke Co., Chicago, Ill. and L. Harvey, Illinois Power & Light Corp., St. Louis, Mo.

Report — Publicity Committee, H. O. Andrew, Chairman, Gas Age-Record, New York, N. Y.

Report — Advertising Committee, F. F. Cauley, Chairman, The Peoples Gas Light & Coke Co., Chicago, Ill.

Report — Committee on Education of Industrial Salesmen, J. P. Leinroth, Chairman, Public Service Electric & Gas Co., Newark, N. J.

Report — Committee on Contact with Educational Institutions, J. J. Quinn, Chairman, Citizens' Gas Light Co., Quincy, Mass.

Paper — "Advertising," V. E. Pratt, The Pratt & Lindsay Co., Inc., New York, N. Y.

Thursday Afternoon, October 15, 2 o'clock

Report — Research Committee, J. B. Allington, Chairman, Rochester Gas & Electric Corp., Rochester, N. Y.

Report — Progress Committee, C. C. Krausse, Chairman, Cons. Gas Electric Light & Power Co., Baltimore, Md.

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|---|---|
| Report | Committee on Gas Demand Recording Meters, Sub-Committee of the Distribution Committee, Technical Section,<br>J. P. Leinroth, Chairman,<br>Public Service Electric & Gas Co.,<br>Newark, N. J. |
| Paper | "Rates for Industrial Gas,"<br>T. V. Purcell, Vice-President,<br>The Peoples Gas Light & Coke Co.,<br>Chicago, Ill. |
| Paper | "Insulation,"<br>L. E. Cover,<br>Armstrong Cork & Insulation Co.,<br>Pittsburgh, Pa. |
| | "Control,"<br>A. A. Pihlman,<br>Consolidated Gas Co. of New York,<br>New York, N. Y. |

MANUFACTURERS' SECTION

(Auditorium, 2nd Floor, Steel Pier, Boardwalk Front)

Monday Afternoon, October 12, two o'clock

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| Opening Remarks | Chairman, Wendell L. Smith,<br>A-B Stove Co.,<br>Battle Creek, Mich. |
| Report | Nominating Committee,<br>Geo. W. Parker, Chairman,<br>Parker-Russel Mining & Mfg. Co.,<br>St. Louis, Md. |
| Election Report | R. M. Connor,<br>Director of Appliance Testing Laboratory |
| Report | Division Chairman,<br>Accessories—R. Mueller, Mueller Co., Decatur, Ill.<br>Apparatus & Works—John Lowe, M. T. Davidson Co., New York, N. Y.<br>Gas Range—Charles T. Aaron, A-B Stove Co., Battle Creek, Mich.<br>Heating Appliances—H. L. Whitelaw, The A. H. Wolff Gas Radiator Co., New York, N. Y.<br>Industrial Appliances—P. C. Osterman, American Gas Furnace Co., Elizabeth, N. J.<br>Lighting Appliances—Townsend Stiles, Welsbach Co., Gloucester, N. J.<br>Meter—W. H. Jefferson, Cutler-Hammer Mfg Co., New York, N. Y.<br>Office Devices—H. J. Johnson, Remington Typewriter Co., Inc., New York, N. Y.<br>Water Heater—P. H. Hamilton, The Sands Mfg. Co., Cleveland, Ohio<br>Supply—Kenneth Seaver, Harbison-Walker Refractories Co., Pittsburgh, Pa. |
| New Business | |

NATIONAL CONFERENCE ON INFORMATION COMMITTEE WORK

*Under Auspices of the Publicity and Advertising Section*

Wednesday afternoon, October 15, two o'clock

Belvedere Room, Hotel Traymore, or New Room, Haddon Hall

Charts, Billboards and Advertisements Displayed on Platform

| | |
|---|---|
| Opening Remarks and Roll Call | F. L. Blanchard, Chairman,<br>Publicity and Advertising Section |
| Address | "The Purpose of This National Conference,"<br>H. C. Abell, President,<br>American Gas Association, |

Address — "The Newspaper Contact. How Is It Accomplished? What Is Its Value?"
Joe Carmichael, Director of the Iowa Committee

Brief discussions by directors of State Public Utility Information Committees

Address — "In Eighteen Months, 2,514 Talks on the Utility Business Have Been Made in Illinois to 440,000 Persons—How It Is Done,"
H. M. Lytle, Associate Director of the Illinois Committee

Brief discussions by state directors

Address — "What an Information Committee is and What It is Not—What It Can and Cannot Do for the Gas Industry,"
B. J. Mullaney, Vice-President,
The Peoples Gas Light & Coke Co.,
Chicago, Ill.

Thursday Afternoon, October 16, two o'clock

Opening Remarks and Roll Call

Report of Nominating Committee

Election of Officers

Address — "The Story the Public Ought to Know,"
Charles A. Munroe, Chairman of the Board,
Laclede Gas Light Co.,
St. Louis, Mo.

Brief discussions by state directors

Address — "By-Products of the Committee Movement,"
P. H. Gadsden, Vice-President,
The United Gas Improvement Co.,
Philadelphia, Pa.

Brief discussion by state directors

Address — "The State Committee Cannot Do It All,"
Earle W. Hodges, Director,
Public Utility Information Committee of Arkansas

Brief discussions by state directors

Address — "The Gas Man's Place in the Committee Movement,"
(Speaker to be announced.)

TECHNICAL SECTION

(Auditorium, Second Floor, Steel Pier, Boardwalk Front)

Tuesday, October 13, two o'clock

Opening Remarks and Report of Chairman — Chairman, R. C. Cornish,
American Gas Co.,
Philadelphia, Pa.

Report — Nominating Committee,
L. J. Willien, Chairman,
C. H. Tenney & Co.,
Boston, Mass.

Paper — "Types of Gas Plants and Quality of Gas Best Suited for the Development of the Gas Industry,"
J. A. Perry,
The United Gas Improvement Co.,
Philadelphia, Pa.

Paper — "By-Product Ammonia and the Air Nitrogen Process,"
Prof. H. A. Curtis,
Yale University,
New Haven, Conn.

Report — Carbonization Committee,
A. M. Beebee, Chairman,
Rochester Gas & Electric Corp.,
Rochester, N. Y.

Wednesday, October 14, two o'clock

DISTRIBUTION SESSION

Report — Distribution Committee,
H. E. Bates, Chairman,
The Peoples Gas Light & Coke Co.
Chicago, Ill.
(The entire session to be devoted to the report of the Distribution Committee, following the subjects discussed at the Distribution Conference at Detroit, June 11 and 12.)

Thursday, October 15, two o'clock

Report — Water Gas Committee,
J. H. Warnick, Chairman,
Equitable Gas Co.,
Elrama, Pa.
1. Operators' Section
2. Uncarburetted Water Gas Section
3. Builders' Section

Report — Consolidated report of other committees

(It is planned to devote practically this entire session to the discussion of the Water Gas Committee report, which has a considerable number of sub-committee reports under the Operators' Section.)

Reduced fare privileges have been granted to A. G. A. members and their immediate families attending the Convention. Identification certificates required for this purpose will be mailed from Headquarters on or about September 15 and are applicable only to members of the A. G. A. and dependent members of their families. Round trip tickets will be sold at one and one-half fare on presentation of these certificates. Following is the list of territories and railroads on which the reduced fare privilege is in effect:

*Territories*

*New England Passenger Association*

Boston and Albany Railroad.
Boston and Maine Railroad.
Central Vermont Railway.
Central New England Railway.
Grand Trunk Railway System (Maine, New Hampshire and Vermont).
Maine Central Railroad.
Montpelier and Wells River Railroad.
Narragansett Pier Railroad.
New England Steamship Company.
New York, New Haven and Hartford Railroad.
Rutland Railroad.
St. Johnsbury and Lake Champlain Railroad.
York Harbor and Beach Railroad.

Tickets must be purchased October 8-14 with final return limit to reach original starting point not later than midnight of October 22.

*Central Passenger Association*

West of Buffalo, Niagara Falls, Salamanca, Pittsburgh, Wheeling, Parkersburg, Kenova, to and including Chicago and St. Louis, and north of the Ohio River including Cincinnati, Louisville and Cairo.

Tickets must be purchased October 8-14 with final return limit to reach original starting point not later than midnight of October 22.

*Southeastern Passenger Association*

South of the Ohio and Potomac Rivers and east of the Mississippi River.

Tickets must be purchased October 8-14 with final return limit to reach original starting point not later than midnight of October 22.

*Western Passenger Association*

West of Chicago, Peoria, and St. Louis, east of Washington, Oregon and Nevada.

Dates of sale for Illinois, Iowa, Kansas, Manitoba, Missouri, Nebraska, Michigan, North and South Dakota and Wisconsin: October 8-14, final return limit October 22.

Dates of sale for Colorado, Montana, New Mexico, Utah and Wyoming: October 7-13, final return limit October 23.

*Transcontinental Passenger Association*

Arizona, British Columbia, California, Idaho, Nevada, Oregon and Washington.

Dates of sale: October 2-8, final return limit October 29.

*Southwestern Passenger Association*

Southwest of St. Louis, including Texas, Arkansas, Oklahoma, Missouri, south of the Missouri River, and Louisiana west of the Mississippi River.

A Scene That Will Bring Pleasant Memories to Many.

Dates of sale for Oklahoma and Texas: October 7-13, final return limit October 23.

Dates of sale for Arkansas, Kansas, Louisiana and Missouri: October 8-14, final return limit October 22.

*Canadian Passenger Association*

Canada, east of and including Armstrong and Port Arthur, Ontario.

Dates of sale: October 8-14, final return limit October 22.

Certificates must be presented on purchase of ticket and validated for return at Atlantic City, New Jersey, at the regular ticket office of the lines over which ticket reads on any date after arrival, and prior to final return limit.

A list of Atlantic City hotels and special convention rates will be mailed to the members in time for reservation.

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**INTEREST in conventions has been stimulated in a new way recently by the Advertising Club of Fresno. PRINTER'S INK of July 9th tells it in this way: "In order that a large delegation may be encouraged to attend the twelfth district convention of the Associated Advertising Clubs of the World at Seattle, Wash., the officers and directors of the Fresno California Advertising Club have made an offer of $50.00 to each of the first ten members to qualify as delegates. The delegates are required to enter a three-minute speaker contest."**

**Here is a novel way of training delegates to stand on their feet and represent clearly and forcibly the opinions or policies held by the local men who had to stay at home. How badly do the local groups need men who can state their cases before an audience?**

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"Palaces by the Sea"—The A. G. A.'s Favorite Convention Center.

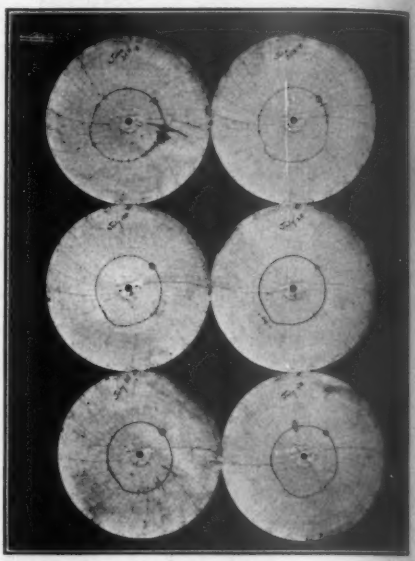
# Effect of the Santa Barbara Disaster on the Distribution System

By FRANKLIN S. WADE, Manager, Southern Counties Gas Company

FORTUNATELY, no damage was done to the manufacturing plant of the Southern Counties Gas Company by the Santa Barbara earthquake, except for the breaking of a large part of the glass equipment in the plant laboratory. It is interesting, however, to note that the earthquake was sufficiently strong to slop a lot of water out of the 300,000 cu.ft. storage holder at the plant.

The company's distribution system was broken and damaged in a great number of places. The main 6″ cast iron line going north on State Street and supplying the principal business part of the city was not actually broken in two in any place. There were, however, a great many leaks in it caused by service pipes being pulled away from the main, and in one case a section of the pipe several inches square was actually pulled right out with the service. In a number of places screwed steel lines were pulled in two at the coupling and parted for the space of one or two inches. There was one case where a 3″ welded line was torn apart in a jagged fashion, starting on top of the main in the weld, and tearing down through the adjoining metal, so that the main as a whole was pulled apart about 1″. This break occurred in filled ground where the movement must have been very heavy, as the pavement of the street above this main was broken and the level of the edges of the pavement parted about 2″—that is, that one edge of the pavement was about 2″ higher than the other at the break. Many leaks were, however, caused by dislocation of service connections on steel lines.

The method of testing the city before resuming service was as follows:



**Course of the Earthquake Shown by Charts Taken from a Tycos Recording Thermometer Installed at the Company Plant on the Main Natural Gas Line Leading in from the Ventura Field.**

A large group of experienced men was concentrated in Santa Barbara from all the other districts of the Southern Counties Gas Company immediately after the earthquake. These men were instructed to visit every gas consumer in the city and shut off the gas at the inlet to the consumer's meter, or, where a broken or dislocated service was suspected from the condition of the premises, the main was inspected and the service connection either plugged at the main or the corporation cock shut off.

When all consumers and services had been shut off, unpurified oil gas, containing a large amount of sulphuretted hydrogen was made and sent out through mains under slight pressure. (The normal pressure on the Santa Barbara system varied

Santa Barbara's Main Thoroughfare, State Street, after the Quake.

from 3 lbs. to 7 lbs. per sq.ft.) The crew of men was instructed to go over all parts of the mains where damage was suspected looking and smelling for leaks by barring or other means. The strong smell of this unpurified gas was of great assistance in locating leaks, and after about eight days of intensive work, a sufficient number of leaks were discovered and repaired so that the gas leaking all over the city, as indicated by orifice meter reading at the plant, had been reduced from 50,000 cu.ft. an hour, the test made shortly after the earthquake, to approximately 10,000 cu.ft. per hour.

On July 8th, ten days after the earthquake, leakage had been reduced to a point where it was deemed safe to begin turning on gas to the consumers in the city. A train crew of men were thereupon sent to each consumer's premises and the gas was turned on and a five-minute observation made on the test hand of the consumer's meter. If the test hand showed any movement, a leak in the house piping was suspected, and the consumer was instructed to have some of the city's officially appointed plumbers and gas fitting inspectors go over his premises. By this means gas service was practically restored to normal in the city of Santa Barbara—except, of course, those buildings which had been wrecked —on July 11th, or thirteen days after the earthquake.

The gas leakage in the city of Santa Barbara, as indicated by the reading of the sendout meter during the minimum hours from 2 a.m. to 4 a.m., is now approximately twice what it was before the earthquake. This increase in leakage is doubtless made up of a large number of small leaks at service connections and possibly elsewhere, which can only be found and remedied after a long campaign of investigation.

One rather interesting matter that developed in connection with our observations of this earthquake was the apparent usefulness of a certain type of recording thermometer as a seismograph, as shown in the picture. The heavy shake just before seven o'clock on June 29th is very clearly shown by the vibrations of the pen. Succeeding smaller shakes are also shown, not only on the 29th, but on the

days following. The two shakes on the morning of July 3rd were rather severe, and gave the residents of Santa Barbara quite a fright. The slight shakes as shown on July 1st were hardly perceptible, while a shake of the character shown about 6 a.m. on June 30th could be easily felt while standing on the ground.

In a preliminary way, our observations as to the effect of the earthquake on the distribution system at Santa Barbara, can be stated as follows:

1. Bell and spigot cast iron pipe properly laid with lead joints is sufficiently flexible to stand an earthquake of considerable intensity without breaking.

2. Screwed steel or wrought iron pipe shows a serious tendency to pull apart and break in an earthquake. This break generally occurs in one of the few threads remaining outside the coupling after it is made up.

3. Welded steel or wrought iron lines will stand an earthquake of considerable intensity without pulling in two. Cast iron fittings must not, however, be used in such welded lines, as in one case we found a cast iron tee used in a welded line had broken and pulled apart.

4. The greatest danger of leakage in an earthquake is at the point of connection between service lines and mains. Every effort should be made to make these connections strong, and as flexible as possible.

If I have created an impression which seems to be unduly favorable to welded lines, it should be remembered that the amount of welded pipe in Santa Barbara as a whole is relatively small compared with the amount of screwed pipe. It is, therefore, quite possible that, if we had a larger amount of welded pipe in Santa Barbara, we would have had more breaks in this character of construction.

In regard to earthquake insurance, our company has never carried any insurance of this character, and while we have considered it to a certain extent since the Santa Barbara earthquake, we have not yet concluded that we are justified in paying the premium. We had some figures submitted on insuring various medium sized office buildings on our system, with the following results:

Total value of approximately sixteen brick and two concrete buildings located in eighteen towns in Southern California was $349,714. Earthquake insurance up to 90 per cent of the value of these buildings, or $315,000, was quoted prior to July 13th, at $1,134 for a three-year policy, or approximately 10 cents per $100 per year. Owing to the experience in the Santa Barbara earthquake and to the general lack of experience in earthquake insurance, all of the companies operating in California on July 13th doubled their earthquake insurance rates so that the present rate on small brick and concrete buildings runs approximately 20 cents per $100 per year, when taken on a three-year policy, at 90 per cent of full value.

We have never heard of any rate covering damage to underground mains, but we have made no special investigation of this matter. In general we feel that our operations are sufficiently widespread to average any loss which might occur from earthquakes in this vicinity. I do not think our actual property damage in Santa Barbara will exceed $10,00 or $15,000, but, of course, the loss from increased leakage and loss of business due to the effect on the district served cannot as yet be determined.

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ALFRED H. HANSEN, formerly efficiency engineer of the Metropolitan Water District, Gas Department, Omaha, Nebraska, has been promoted to head of the claims department. He is succeeded by L. C. Neel, efficiency engineer.

# The Laboratory Opens Its Doors

By R. M. CONNER, Director, Appliance Testing Laboratory

F. E. Vandaveer

THE American Gas Association Appliance Testing Laboratory went into actual operation July 31, the day after the first sample of flexible gas tubing arrived. This work will be continued until all tubing samples have been tested. It is impossible to estimate exactly how long it will require, as progress will depend largely upon the promptness with which tubing manufacturers furnish their samples for examination.

Work for installing initial equipment has been largely completed, although new instruments will be added from time to time. Gas men familiar with laboratory work are unanimous in their statements that the Laboratory's ability to begin actual testing within less than two months from the date of its inauguration is a very creditable achievement.

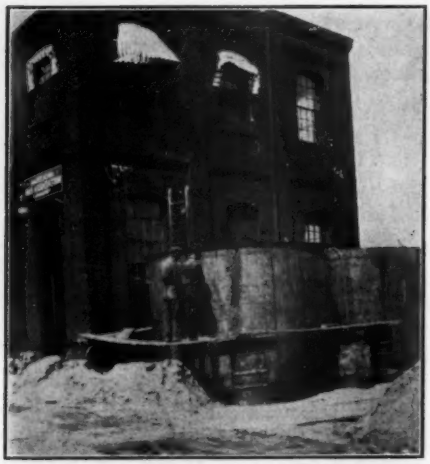
The latest addition to our laboratory staff is Dr. F. E. Vandaveer, a graduate chemist of the University of Illinois. Dr. Vandaveer, while at this school, obtained the following degrees: B.S. Degree in Industrial Chemisty, 1922; M.S. Degree in Industrial Chemisty, 1923; Ph.D. Degree in Industrial Chemistry, 1925. While attending the University he was appointed a Fellow of the Illinois Gas Association in Gas Engineering, and pursued studies in this course from 1922 to 1924. During the year 1925 he held a Fellowship in Chemistry granted by the university.

During his college career he also made special studies in the following subjects: (1) Determination of Sulphur in Oil; (2) Combustion of Carbon Monoxide and Hydrogen by Means of Metallic Oxide, a paper being prepared on this subject and read before a section of the American Chemical Society; (3) Problems Connected with the Analysis of Fuel Gas. Dr. Vandaveer is author of Circular No. 12 of the University of Illinois Engineering Experiment Station, a bulletin covering in detail the relative merits of different kinds of gas analysis apparatus. He also has had considerable experience in special problems connected with the manufacture of carburetted water gas, and spent some time in the laboratory of the Peoples Gas Light & Coke Company of Chicago under the direction of R. B. Harper, chief testing engineer.

In addition to the above, he also made special studies in low temperature carbonization of coal by the Parr-Layng process. His employment should prove a valuable addition to the Laboratory staff, which is composed entirely of technically trained men.

Reports received from different subcommittees to edit construction and performance specifications on gas appliances indicate that they have all been

The Laboratory's First Job. Testing Flexible Gas Tubing.



**Installing Experimental Storage Holders for the Laboratory.**

organized and are actually at work. The standards developed by these groups will be used by our Laboratory in making tests on central house heating appliances, gas ranges, water heaters, and the different kinds of space heaters. These specifications, before adoption, will be submitted to the General Specifications Committee for approval.

During last month definite plans were drawn up by our Laboratory and the Bureau of Standards for the conduct of their joint research work. These plans have been approved by the Specifications Committee, and tests will be started immediately. Gas Range Specifications, which require only final revision, will doubtless be the first ones completed. C. C. Winterstein, manager of the U. G .I. Contracting Company's laboratory at Philadelphia, is chairman of this committee.

Prominent gas men regard A. H. Hall's selection of the various committeemen as being highly creditable. Mr. Hall is chairman of our General Specifications Committee. Practically all geographical sections of the country, as well as the different branches of the gas business, are fairly represented by these groups. It is difficult to imagine more impartial organizations, and their completed work should be indicative of the best thought of the industry along these lines.

Resolutions were passed during the second Summer Sales Conference of the Commercial Section of our Association, at Lake Mohonk in May, approving the Laboratory's plans. Just how the Commercial Section could best tie its activities in with the Laboratory was one of the main topics of discussion. It was significant to note that all comments heartily endorsed our plans. This body can do a great deal to assist us, and it is believed that the fundamental thought in this matter was voiced during the meeting: that it lies in the act of selling the true value of the Laboratory's approval to the general public. This is a most important mission and, if satisfactorily accomplished, should prove of great value to our interests.

The Managing Committee is considering to what extent the Laboratory might offer general suggestions to manufacturers whose appliances have failed to pass our tests. This should not be interpreted to mean that it will expose any manufacturer's trade secrets, or attempt to advise appliance companies how to construct their equipment. Each manufacturer is undoubtedly more familiar with such problems than anyone else. However, it it quite probable that our tests will develop certain information and prompt general conclusions which may very well be passed on to the manufacturers.

We wish to acknowledge again the cooperation of manufacturers who have so generously contributed equipment and, when called upon for any assistance, have always done their part.

# The Cinderella of the Distribution System

## The Whys and Wherefores of an Architect's and Builder's Service Division

By ROBERT B. MAHN, Consolidated Gas Company of New York

THERE are more than seventy thousand miles of gas main in the United States, not counting the hundreds of thousands of miles of pipes which lead from the bigger mains to the homes or factories of consumers. Every detail of any gas company's system was planned by and is under the supervision of its own organization. But the thousands of house gas piping systems have been planned by countless individuals, men in no way connected with the gas companies.

Your investment in house services alone is a tremendous item. Therefore, why not complete the entire circuit of your system,—going beyond the house service by planning and supervising the gas piping layout for the building itself?

That is the part an Architects' and Builders' Service Department should play in the growth and development of the gas industry. Such a department is not a sales division, in the immediate sense of the word. It is an organization for foundation work. It has an important part in every phase of the commercial and distribution systems of the company. It sells through service, but closes no sales. It sells by the savings it effects for the various departments of the company. It sells by promoting the utilization of gas appliances and all new and advance methods of installation. It sells "futures" for the company in those items, for, after the building has been piped according to the plans of an Architects' and Builders' Service Department, it naturally follows there will be an elimination of countless future complaints—leaks, inadequate supply, heretofore existing through insufficient gas piping and faulty appliances.

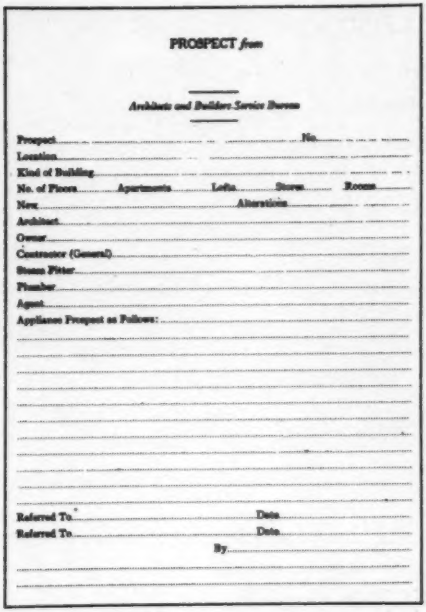
SUMMARY OF REPORTS FROM ____ TO ____ 192_

| | Apartments | Private Residences | Office Buildings | Stores | Lofts | Miscellaneous | Full Total of all Piping & Appl |
|---|---|---|---|---|---|---|---|
| 1. RANGES | | | | | | | |
| GAS HEATING | | | | | | | |
| 2. Gas Steam Radiators | | | | | | | |
| 3. Fireplace Heaters | | | | | | | |
| 4. Fireplace Igniters | | | | | | | |
| 5. Space Heaters | | | | | | | |
| 6. Central Heating Plant | | | | | | | |
| 7. Water Heaters | | | | | | | |
| 8. Laundry Equipment | | | | | | | |
| 9. Baseboard Outlets | | | | | | | |
| 10. Branch Lines - Industrial | | | | | | | |
| 11. Branch Lines - Domestic | | | | | | | |
| 12. Sole Lighting | | | | | | | |
| 13. Auxiliary Lighting | | | | | | | |
| 14. Public Portion Lighting | | | | | | | |
| 15. Piped for Rising Lines "T" Branch East Floor | | | | | | | |
| 16. One Meter | | | | | | | |
| 17. Cellar Meter Openings | | | | | | | |
| 18. One Meter for General Laundry | | | | | | | |
| 19. Retain Existing Piping | | | | | | | |
| 20. Now Piped No Change | | | | | | | |
| 21. No Piping Specified | | | | | | | |
| 22. Project Abandoned | | | | | | | |
| TOTAL NUMBER OF REPORTS | | | | | | | |
| (A) INDUCED TO SPECIFY WHERE NOT FIRST SPECIFIED: | | | | | | | Total Amt. of A & B Items |
| 23. To One Meter: Number Meters Saved: | | | | | | | |
| 24. To Cellar Meter Openings: Number Meters (In place of kitchen meters) | | | | | | | |
| 25. To One Meter for General Laundry: (In place of Individual Meters) | | | | | | | |
| 26. To Retain Existing Piping: Number Buildings: (Altered Buildings) | | | | | | | |
| 27. Number Risers | | | | | | | |
| 28. Number Branch Lines | | | | | | | |
| 29. Number Outlets | | | | | | | |
| 30. Number Appliances | | | | | | | |
| (B) INDUCED TO INCREASE AMOUNT SPECIFIED: | | | | | | | |
| 31. Number Risers | | | | | | | |
| 32. Number Branch Lines | | | | | | | |
| 33. Number Outlets | | | | | | | |
| 34. Number Appliances | | | | | | | |

**Form of Annual Report for an Architects' and Builders' Service Department.**

Here is a copy of the yearly reports for 1924, of the Architects' and Builders' Service Division of the Consolidated Gas Company of New York.

The Architects' and Builders' Service Division must keep fully informed of all new and altered building operations within its territory, and does this through the F. W. Dodge Company's building reports. These reports are numbered and indexed under their proper street or Avenue file, after the office record has been typed from that report. This latter report is a record of work with architect, builder, etc., and is kept on active file until completed, and ready to close out.



PROSPECT *from*

*Architects and Builders Service Bureau*

Prospect ..... No. .....
Location .....
Kind of Building .....
No. of Floors ..... Apartments ..... Lofts ..... Stores ..... Rooms .....
New ..... Alteration .....
Architect .....
Owner .....
Contractor (General) .....
Steam Fitter .....
Plumber .....
Agent .....
Appliance Prospect as Follows: .....

Referred To ..... Date .....
Referred To ..... Date .....
By .....

**Prospect Card Used as Base of Complete Monthly Report.**

The actual Dodge reports are used by the representative for routing and in use on territory. Using these reports on territory gives the representative all the constructional details of the operation. The office file number of each report taken out on territory is noted in an office record; the same record book is used as a tickler for future calls. When the report is completed, a prospect card is made out and forwarded to the division or branch of the Company it is intended for. The monthly report is then made up from these completed reports. Special cases of installations recommended and agreed upon are then made up from the office report and forwarded to the Customers' Service Department (formally known as the Meter Department). If any changes are made in the piping other than agreed upon, that department's inspector notifies us at once. This enables us to reopen the question as to the change in sizes and renew our efforts to keep the installation originally agreed upon.

Regarding projects, such as hotels, restaurants, club and lunch rooms, or homes, hospitals, and various institutions, the Dodge Company's reports on these are immediately made out on memorandum to our Hotel and Restaurant Division, as these classes of building operations are sharply competitive and require a sales representative calling at once in order to submit a bid on the kitchen equipment. Naturally, information of this kind comes to us through other sources than the Dodge reports, sometimes from the architects and builders themselves, and in every case we give it immediate attention.

The representative must at all times keep in mind that first and last his work is to stress the fact that his department is for the exclusive use of the architect and builder; to assure them that the department is always at their service in matters pertaining to gas piping layouts, securing of available data necessary for their projects, and ready to act for them in all departments of the Company so as to facilitate matters for them. This should be thoroughly grounded with the representative, so that he may establish and maintain the confidence and good will of the architect and builder. He must at all times be to the architect a service man, not a salesman. Otherwise the architect will place him in the category of the building supply and material salesman, and the real value of the representative and his department will never be fully understood. Therefore, the initial transaction with the architect is most important. When you have gained the confidence of the architect, co-operation comes naturally and continues year after year. He readily accepts the advice and suggestions offered, appreciating the experi-

enced judgment of a representative of the gas company, and considers it no intrusion upon his own domain.

Referring to the statements I first made on the value of an Architects' and Builders' Service Department, I believe I can best illustrate this by outlining in a general way some of the work we accomplished in New York last year. Several of the outstanding features are these:

It has been the standard practice to pipe every apartment building for a gas rising line to supply each stack or line of apartments. If a building contained, say, ten apartments to a floor, that many gas risers were run, with branch lines to each apartment on every floor. Heretofore gas meters were set in the kitchens of all apartment buildings. The vast number of meters in this class presented a wide and growing problem. The economic advantage of meters set in basement or cellar is at once apparent. It insures accessibility to meters at all times,—vital in cases of emergency. To pipe for cellar or basement meters means a separate gas rising line to every apartment, which would mean one hundred gas risers in the case of a ten-story apartment building, compared with the former system of piping for only ten risers. The Architects' and Builders' Service Division successfully conducted a campaign to establish a new standard among architects and builders, to plan for and install gas piping for cellar meters, and since January, 1924, 11,572 have been definitely arranged for.

A plan was advanced among the architects and builders to substitute one meter, which affords an advantage to the company, now and in the future, by the number of meters saved, in addition to the savings on indexing, billing, accounts to render and collect. It is also of economic value to the tenant in gas consumption, and to the owner and builder by lessening the initial cost of gas piping. This latter saving particularly appealed to the speculative owner and builder. Some 1,358 meters were saved by this plan.

Of course, we get many operations during the year where no gas piping is contemplated, and many and varied are the arguments advanced to overcome this.

"Modern"—And All the Term Implies
ONCE UPON A TIME"—AS THE FAIRY-STORY TELLERS WERE IN THE HABIT OF MEASURING YEARS GONE BY—ONE OF THOSE "ECONOMY" WAVES FLOWED INTO THE BUILDING BUSINESS.
IT WAS A CASE OF FALSE REASONING THAT LED TO THE ELIMINATION OF GAS PIPING AT THAT TIME. NOWADAYS A MODERN BUILDING IS ONE THAT IS THOROUGHLY EQUIPPED WITH GAS PIPES.
During the last few months an entirely new use for gas piping has been inaugurated in many of the large and modern new apartment buildings of this city.
Gas, Wood or Coal Open Fires
A 1924-25 INNOVATION
GAS
17 EAST NINETY-NINTH STREET
17 EAST NINETY-NINTH STREET. Sixty fireplaces and all prepared for gas, wood or coal heating.
1020 PARK AVENUE. Sixty-six fireplaces equipped with gas piping.
Architects' and Builders' Service Division,
No. 130 EAST FIFTEENTH STREET

**Advertising an Innovation for the Builders' Specifications.**

However, the primary argument in all such cases is in citing the demand which will be made for gas in that particular type of building when completed. To pipe after erection, when these demands will be made, means an extra expense to the owner. He will be put to the necessity of installing the necessary gas piping system at a cost far in excess of what it would have been originally. In proportion to the cost of the building, the cost of piping at the time of its erection is less than one per cent. If all our arguments do not prevail, we then tell the architect

that we do not like to step over his head, but we shall have to write the owner our view of the matter, and a copy of this letter will be sent to him (the architect), at the same time. Also, that we know from experience and detailed knowledge that the building under consideration should be piped for gas in the manner we have recommended. We have registered one hundred per cent with a general form letter of arguments on this subject, and can point to dozens of piping installations in buildings now housing big gas consumers.

Wood-burning fireplaces have so rapidly grown in favor that a great number of the higher priced apartment buildings are provided with them. Naturally these were no source of revenue to us, and we had to tackle the problem of how to worm in gas to these in some way. We knew that every tenant occupying this kind of apartments would not want to burn wood logs, and further, no one really liked the idea of making up kindlings and getting fires started. So we devised a wood log igniter. These igniters are simplicity itself. They consist of a ⅜" coupling, about an inch long, plugged, and drilled with a 45 M. T. D. with an overhang cap over the face end. We interested the architect in this feature and give him or the builder as many of these igniters as there were fire-places in the apartment buildings he was planning for. There is practically no consumption revenue to

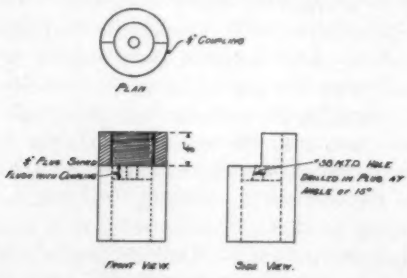



**Diagram of Wood Log Igniter.**

speak of from these, but, in every building where the architect or builder agreed to use them, we settled the point of piping size—that is, a ¾" branch line to each fire-place, valved, with the pipe to the igniter in fire-place the same size (¾"), but bushed down to ⅜" for this connection.

That commercial and industrial buildings present a wide variety of gas piping features, is, of course, apparent. Our recommendations for loft or office structures depend mostly upon the location of the project. In New York we have distinct zones and localities for nearly every line of trade and manufacture. In this connection, we use the Merchants' Associations' map of industrial New York, and can fairly well gauge what the gas demands will be, and base our recommendations on these, usually doubling the result to provide for future expansion. In these buildings and all other classes we arrange with the architect the location and size of house service and meters, and in settling these matters before actual construction is started, we facilitate the work of the Meter and Street Departments.

It has always been one of our main objectives to establish a standard form of gas piping specification among the architects, and have him incorporate these in his plumbing specifications. We have a standard form of specification which we wrote for a large apartment building in our city. This is now the form used on all apartment specification work by one architectural firm in New York, who number their building operations by the hundred.

In establishing an Architects' and Builders' Service Department, I should like to suggest, in addition to the system just outlined, that a general survey be made of your territories to determine the type and kind of appliances, and the pip-

ing systems you may want in each class of buildings. This chart of survey should be flexible, as you may have to supplement from time to time as the work of the department progresses and new installations for gas are made.

Take advantage of the architectural magazines, building trade periodicals and local newspapers by advertising the Architects' and Builders' Service Department. Direct the architects' and builders' attention to the gratuitous expert service offered by your company upon all questions relating to gas piping, gas appliances, and all other features of the department's work.

A list of all architects and builders within the territory should be made for your calling and mailing lists, and every one interested in this service notified by personal letter. We have found it worth all the time and effort it cost us to send out personal letters, as the stereotyped letter neither attracts nor holds the attention.

Make up a file for water heating, house heating, domestic appliances and industrial catalogs and cuts, such as the manufacturer furnishes. Architects will want information of this kind and it should be always at hand.

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## Holder No Menace Says Court Decision

HOLDING that the town of Greenburgh, N. Y., which brought suit to compel the Westchester Lighting Company to remove the gas tank it erected a year ago, had failed to establish that the structure and its operation was dangerous, Supreme Court Justice Arthur S. Tompkins, in a decision signed at Nyack, on July 28, dismissed the case. Attorneys for the town have prepared to appeal to the Appellate Division.

Residents of Greenburgh contended that the tank was a menace because it was liable to explode and that noxious fumes endangered the health of the community.

In his decision Justice Tompkins held that the company had in no way violated any ordinance of the town and that "there is no satisfactory proof that the erection or operation of the gas holder has produced any of the conditions prohibited by these ordinances, or that it is likely to do so. If the defendant, in the operation of its property, shall violate any of these ordinances, it may be prosecuted thereunder.

"It is my opinion that equity will not be done by requiring the removal by the defendant of its gas holder and other structures for the following reasons:

"The circumstances require the conclusion that the ordinance of March 6, 1924, was adopted primarily to prevent the completion and operation of the defendant's gas holder and the other buildings connected therewith, and to provide the basis for this action; the contract for the structure was let by the defendant in May, 1923; the work of construction began in August of that year and the first notice of protest from the town board was received by the defendant on Nov. 13 of the same year. The foundation had been laid and many thousands of dollars expended in the work.

"Two weeks later, the action was commenced under the code of ordinances of Feb. 8, 1923. When the ordinance which forms the basis of the second action was adopted on March 6, 1924, the holder was substantially complete. The second action was commenced in September, 1924, after the holder was complete and in operation.

"In view of these uncontradicted facts and the failure of the plaintiff to establish, by a fair preponderance of evidence, the dangerous character of the structures or their equipment, or any hazard or menace to life or property from their operation, I conclude that the plaintiff is not entitled to any relief in Action 2, and that the complaint should be dismissed on the merits with costs.

Among the witnesses produced by the lighting company to disprove charges that the tanks were a menace was United States Senator Royal S. Copeland, former Health Commissioner of New York City, who told of his experiences with gas tanks while he had office as commissioner.

# Organizing Home Service for a County

By MRS. CECIL F. HARVEY, Director in Charge of Home Service,
Westchester Lighting Company, Yonkers, N. Y.

AT this writing our Home Service Division is still in its infancy, having been in existence only three months.

Our field of operations covers more than four hundred square miles, within which are four cities, twenty-three villages, and sixteen townships. Obviously, our organization must spread out over this wide expanse in order to adequately serve our customers.

In the more thickly populated cities and towns of the territory there are district offices, in each of which a woman director of the Home Service Division has been engaged. These directors come under the supervision of a chief director, whose office is located in the main office building in Yonkers, New York.

Since it is an accepted belief that the success of an organization depends upon, first, a careful selection of its personnel, and second, the formation of a constructive program of operation, we have given both time and effort to these factors.

The directors, selected because their particular qualities fit them for this work, reside in the districts which they respectively represent. Thus, they possess both the personal touch and knowledge of the community in which they carry on their work, and a sympathetic understanding we consider to be of great value in promoting a good will interest.

The work of our directors at present consists in following up and demonstrating newly installed gas and electric appliances, in complying with requests from customers for home demonstrations, and following up, either by 'phone or personal call, completed complaint orders which have been attended to by the Customers Service Department to verify the proper execution of the work and to make certain that satisfactory service has been given.

When the directors are not out on the district, they are engaged in giving demonstrations of various appliances in their own respective kitchens in the district offices.

On the sales floor of each district office is a model equipped kitchen. In color scheme and arrangement these kitchens are as nearly alike as possible. Corn-colored voile draperies curtain the windows, and attractive linoleum floor covering, showing a pattern of large black and cream-colored blocks, adds to the general effect.

The equipment in each kitchen consists of a gas range with oven heat regulator, the type of range to be changed monthly; water heater, refrigerating machine, metal cabinet, porcelain sink and drain, and white enamel kitchen table and chairs. Added to these are

Mrs. Harvey Conferring with Members of Her Staff.

any smaller articles which may be necessary to the minutest detail in culinary art. The effect is sufficiently alluring to tempt the domestic instincts of our feminine consumers, to cause them to linger and inspect all gas and electric appliances and even to create and cook a tempting meal.

In addition to the model equipped kitchen in our Yonkers district office there is, in the basement of this building, a demonstration kitchen where recipes are thoroughly tested before being given out.

Meetings of the directors of the Home Service Division are held weekly in the office of the Director-in-Charge at Yonkers, at which times suggestions are contributed and plans formulated for the work of the ensuing week. Following the formal meeting there is a cooking demonstration and testing of recipes.

During "Better Homes Week" our Home Service Division had two complete kitchen and laundry displays on exhibition, one in the Woman's Club at Port Chester, New York, supplied by the Port Chester district office, and the other in Hastings, New York, supplied by the Tarrytown district office.

Plans are now being formulated for the work of our division in the fall, at which time lectures and demonstrations will be given in the schools, women's clubs, girl scout clubs, churches and other like institutions.

There are at present in our Home Service Division five district directors and a director-in-charge. This, however, does not imply that our personnel is complete. In carrying out our plans of giving the best kind of service, not a district will be omitted, not a consumer will be overlooked. The staff of workers in this division will be increased to meet the demands of all consumers whether they use gas, electricity, or both. For the purpose of serving the foreign races a director who is conversant in the foreign languages will be engaged.

With a substantial foundation already under foot, I feel that our new division will, like a little acorn, to a great oak grow, spreading its branches through all parts of Westchester County and thereby rendering the best of service to the consumer, whose interests we have at heart.

We pride ourselves on the fact that, young as we are, we are doing everything possible to render a service in Westchester County in accordance with our slogan "Service for Happiness."

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MISS MAYE LOVELL, Director of the Home Service Department, Consolidated Gas Company of New York, has been appointed chairman of the Home Service Committee of the Empire State Gas and Electric Association. We feel sure that the work of this committee will progress splendidly while under the capable direction of Miss Lovell.

## Convention Exhibit to Feature Home Service

YOUR attention is called to the exhibit of the Home Service Committee at the 7th Annual Convention of the American Gas Association, which will be held in booths 561, 562, 563. Remember these numbers and be sure to visit them.

You will find much of interest in the exhibit, details of which you will find elsewhere in the MONTHLY.

Here you will find Home Service girls busy creating new and attractive foods for display and serving. Each day there will be a food demonstrated, and the program tentatively will be as follows:

Monday, the demonstration at the booth will be in charge of Miss Atkinson of the Providence Gas Company and Mrs. E. Lloyd of the United Gas Improvement Co.; Tuesday, Miss Marjorie Pidgeon of the Brooklyn Borough Gas Company and Miss Jessie B. Lane of the Adirondack Light and Power Corporation; Wednesday, Miss M. Lovell of the Consolidated Gas Company of New York and Mrs. L. Fisher of the Eriez Stove Co.; Thursday, Mrs. Anna J. Peterson of the Peoples Gas Light and Coke Company and Miss Gladys Eaton of the Consumers' Gas Co., Toronto.

Home Service Directors from other companies will assist at the booth each day. Watch for the girls with the ribbon bands marked "Home Service."

A daily Home Service News will be distributed each day of the convention.

We hope all members attending the meeting will visit the exhibit, ask questions about the Home Service work, receive the "Daily News" and taste the goodies.

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FOLLOWING ARE FIVE new companies which have been added to the list of companies operating Home Service Departments:

Cumberland County Gas Company, Vineland, N. J.
Mrs. Donna S. Thompson;

Syracuse Lighting Company, Syracuse, N. Y.
Mrs. G. Champaign;

Nassau and Suffolk Lighting Company;

New York State Gas & Electric Corporation, Cortland, N. Y.
Miss Pauline L. Rohrs;

Gary Heat, Light & Water Company, Gary, Indiana.
Mrs. Jessie Branch

# Affiliated Association Activities

J. J. Humphreys

MOST serious and interested discussions of the problems of the gas industry with confidence in its future featured the Eighteenth Annual Convention of the Canadian Gas Association held at Chateau Frontenac in Quebec, July 15 and 16. The attendance was representative, with a number of visitors from the United States. The annual report of Secretary-Treasurer Allen showed encouraging conditions in the association and the retiring president, E. R. Hamilton of Halifax, was generally congratulated upon a successful year under his leadership.

The entertainment features of the convention were well planned. Many of those in attendance took advantage of the opportunity to travel by water between Montreal and Quebec. Sightseeing tours of the city, where there are so many sights to be seen, took care of all the delegates and visitors. The annual dinner of the association was held at the Kent House at Montmorency Falls on the evening of July 15.

Convention papers were as follows:

Notes on Recent Plant Extensions at Montreal—H. N. Osler, Supt. Station "B" LaSalle Plant, Montreal Light, Heat & Power Cons., Montreal, Que.

Coke Ovens in a Canadian Gas Works—Joseph Stephenson, M.E., Supt., Hamilton By-Products Coke Ovens, Ltd., Hamilton, Ont.

The Value of Hotel and Restaurant Equipment Business—Harry D. Schall, Vice-President, Standard Gas Equipment Corp., New York.

Heating Vertical Retorts with Coal Gas—Frank Elcock, Supt. Gas Works, Ottawa Gas Co., Ottawa, Ont.

Mankind's Greatest Discovery—Alexander Forward, Secretary-Manager, American Gas Association, New York, N. Y.

Electric Welding and Design of Gas Holders—C. H. Scherman, Mgr., Horton Steel Works, Ltd., Toronto, Ont.

Coke Ovens in Medium Sized Gas Works—Hugh McNair, Manager Gas Utility, Winnipeg Electric Co., Winnipeg, Man.

High Pressure Belt Line, and District Governor System of Distribution—J. D. von Maur, Engineer of Gas Distribution, Consumers' Gas Co., Toronto, Ont.

Back Run Results at Quebec—R. A. Wallace, Supt. Gas Department, Quebec Railway Light & Power Co., Quebec, Can.

Home Service Work—Miss Ada B. Swann, Public Service Electric & Gas Co., Newark, N. J.

A New Type of Gas Storage Holder—Fred H. Wagner, Chief Engineer, Bartlett Hayward Co., Baltimore, Md.

Reports of Representatives Managing Committee Sections, American Gas Association:

Technical Section—J. J. Humphreys, Montreal, Que.

Publicity Section—F. A. Jansen, Ottawa, Ont.

Commercial Section—W. B. Johnson, Toronto, Ont.

Manufacturers Section—George Hobbs, Toronto, Ont.

Industrial Section—C. D. Slimpin, Montreal, Que.

Gas Standards and Service—Arthur Hewitt, Toronto, Ont.

Accounting Section—J. J. Armstrong, Toronto, Ont.

Officers for the ensuing year were elected as follows:

Officers and Directors—Canadian Gas Association Year 1925-1926

President—J. J. Humphreys, Engineer of Gas Manufacture, Montreal Light Heat & Power Cons., Montreal, Que.

Vice-President—P. V. Byrnes, President, United Gas & Fuel Co., of Hamilton, Ltd., Hamilton, Ont.

2nd Vice-Pres.—J. J. Armstrong, Secretary, Consumers' Gas Company of Toronto, Toronto, Ont.

Secretary-Treas.—G. W. Allen, 7 Astley Ave., Toronto, Ont.

Executive Committee

J. S. Norris, Montreal, Quebec; Arthur Hewitt, Toronto, Ont.; J. M. H. Young, London, Ont.; C. C. Folger, Kingston, Ont.; V. S. McIntyre, Kitchener, Ont.; A. A. Dion, Ottawa, Ont.; R. A. Wallace, Quebec, Can.; C. A. Jeffries, Toronto, Ont.

**Southwestern Public Service Association.**

Paul E. Nicholls

Harry E. Danner has been elected first vice-president and chairman of the Gas Section of the Southwestern Public Service Association to fill the vacancy caused by the election of Paul E. Nicholls as president of the association. Mr. Danner is commercial manager of the Houston Gas and Fuel Company and has long been active in utility association work. The new officers of the association are: President, Paul E. Nicholls, Galveston; 1st vice-pres., Chairman Gas Section, Harry E. Danner, Houston; secretary, E. N. Willis, 404 Slaughter Bldg., Dallas.

## GENERAL

### CHAIRMEN OF GENERAL COMMITTEES ORGANIZED TO DATE

**Accident Prevention**—C. B. Scott, Chicago, Ill.
**Amendments to Constitution**—Wm. J. Clark, Yonkers, N. Y.
**American Engineering Standards Committee, Representative on**—A. H. Hall, New York, N. Y. —(Alternate Representative) W. J. Serrill, Philadelphia, Pa.
**Award of Beal Medal**—H. C. Abell, New York, N. Y.
**Chamber of Commerce of U. S.**—J. B. Klumpp, Philadelphia, Pa.
**Co-operation with Educational Institutions**—W. G. Gribbel, Philadelphia, Pa.
**Customer Ownership**—Charles A. Munroe, Chicago, Ill.
**Education of Gas Company Employees**—B. J. Mullaney, Chicago, Ill.
**Entertainment**—Wm. J. Clark, Yonkers, N. Y.
**Finance**—James Lawrence, New York, N. Y.
**Gas Safety Code**—W. R. Addicks, New York, N. Y.
**Gas Standards & Service**—J. A. Perry, Philadelphia, Pa.
**General Specifications**—A. H. Hall, New York, N. Y.
**Geographic Sections**—L. R. Dutton, Jenkintown, Pa.
**Managing Committee of Appliance Testing Laboratory**—R. W. Gallagher, Cleveland, Ohio.
**National Fire Protection Association**—R. S. Doull, New York, N. Y.
**Nominating**—R. B. Harper, Chicago, Ill.
**Rate Fundamentals**—H. M. Brundage, New York, N. Y.
**Rate Structure**—Ewald Haase, Milwaukee, Wis.
**Representation on National Joint Committee of Public Utility Associations**—D. D. Barnum, Boston, Mass.; H. L. Doherty, New York, N. Y.; A. P. Lathrop, New York, N. Y.; P. H. Gadsden, Philadelphia, Pa.; Charles A. Munroe, Chicago, Ill.; Wm. L. Ransom, New York, N. Y.; Alexander Forward, New York, N. Y.; H. C. Abell, New York, N. Y.; T. V. Purcell, Chicago, Ill.
**Theft of Gas**—H. B. Flowers, New Orleans, La.
**Time and Place**—A. P. Lathrop, New York, N. Y.

# A Catechism of Safety

## *Answers to Questions Asked at Safety Meeting, Fond du Lac, Wis., Gas Plant*

1. IF by mistake, an operator unlatches the lower retort doors on retorts which had been charged but a few hours before, what should he do?

If the doors have not dropped down so low that coal runs down onto the door seat, it may be possible to close the door again by hydraulic pressure to empty the retorts and refill.

2. What care should be taken in poking out stuck charges?

In poking out stuck charges from below, the operator should move over the coke car just enough so that he can run a rod up into the retort. He should then take care that the floor is clean behind him so that when the charge drops he can step back and avoid flying pieces of hot coke. Goggles should be worn when the charges are stuck very badly, because at such times it is necessary to work almost directly under the retorts. Piking-rods which become red hot and bent should be straightened out before they cool down.

3. If coal gas exhauster stops for any length of time and for some reason can not be started, what happens in the benches, and what should the two operators do to remedy the conditions that exist?

If the coal gas exhauster stops for any length of time, no gas can be drawn off from the benches, and it becomes necessary to open up the clean-out door on the bridge pipe so as to relieve pressure in the retorts. If this is not done, the gas will be forced out at the lower doors, which are not perfectly tight, and the gas will escape into the operating floor, where it can blaze up around the operating mechanism of the lower doors, doing possible damage.

4. Where should the operators look for trouble when they discover air streaks in the test light?

Air streaks in the test light are caused by leaks in some part of the foul main system from the retorts up to the coal gas exhauster. These leaks are usually found at the upper and lower seats or in burned-out joints of the gas take-off pipes at the top of the retorts. Air leaks may also be found when a scurfing plug is improperly placed in the dip pipes. Leaks on upper door seats, pipe joints, or around scurfing plugs can be closed by properly cleaning such door seats and sealing with lime, by recementing joints, and by sealing scurfing plugs with lime. When lower doors leak, it is necessary to shut off the lower take-off valve on the leaking retorts.

From the Safety Bulletin.

5. If it is found that one retort is badly stuck after the other two have been discharged, what would you do?

When one or two retorts have already been discharged it is necessary to poke the remaining stuck charge or charges so that all three retorts can be refilled at the same time.

6. When the upper doors show gas leaks, where do you look for the trouble?

When gas flames or smoke appear at the upper door seats, it indicates that the suction on the hydraulic main is insufficient to draw off the gas as fast as it is being made. Often times the take-off pipes are plugged with tar, in which case only a few of the retorts are affected. If the dip pipe becomes plugged, or if the water level in the hydraulic main raises, one line of three will be shut off. If none of the above causes for trouble are found, it may be that the one or both of the suction governors are functioning improperly. If the coal gas exhauster engine slows up or stops, the same effect would result on the upper doors, but it would be more pronounced.

7. Explain what happens when an operator fails to turn on the steam in the bench producers.

The failure to turn on steam in the producers causes two things to happen: First, it prevents the formation of hydrogen gas which, with the carbon monoxide, furnishes the heating gases for the bench. This causes the bench heats to drop. Secondly, the absence of steam allows the fire bed temperature to become excessive, thus permitting the formation of large clinkers.

8. What precautions should be taken when running coal through the crusher?

Coal gas as received at the plant usually contains large pieces of slate, tramp iron and wood, etc. The operator who is running the coal up the apron conveyor into the crusher should remove such articles which would tend to injure the crusher. If pans on the conveyor become loose or broken, they may get caught at some place, and when this happens the conveyor and crusher should be shut down at once for repairs.

9. What is the proper way to open retort doors, producer doors, water-set doors, combustion chamber doors?

Retort doors and producer doors should not be opened until a lighted torch has been placed near the door opening. The doors should then be cracked and the escaping gas permitted to ignite before the door is pulled wide open. The same precaution is necessary on the water-gas charging door, but on all the water gas doors it is necessary for the operator to know that there is no pressure on the set at the time of the opening of the doors. Combustion-chamber doors should be cracked only, to see whether there is any back pressure before they are entirely removed. A special handle is provided for opening the latter doors so that the operator can stand three or four feet away.

10. The highest temperatures which are to be permitted in ordinary operation are as follows:

| | |
|---|---|
| Condenser | 150 deg. Fahr. |
| Tar Washer | 80 " " |
| Ammonia scrubber | 80 " " |
| Purifiers | 85 " " |
| Recuperators on bench | 1700 " " |
| Stack of bench | 1100 " " |

The average temperatures which we try to maintain are as follows:

| | |
|---|---|
| Condenser | 135 deg. Fahr. |
| Tar Washer | 70 " " |
| Ammonia Scrubber | 70 " " |
| Purifiers | 70-80 " " |
| Recuperators | 1600-1650 " " |
| Stack of Bench | 1000-1100 " " |

11. Why should the temperature in the washers and scrubbers be kept at a certain value, mentioned in 10?

The efficient absorption of ammonia depends on maintaining a uniformly low temperature in the washers and scrubbers. By permitting wash water to become overheated, we lose a certain amount of ammonia which would have been absorbed if the wash water were cooler.

12. What are the different things that will cause back pressure on the water-gas set?

Back pressure on the water-gas set may be due to the following causes:

Poor condition of checker brick.
Excessive rate at which oil is admitted.
Plugged wash box.
Gas outlet to relief holder full of water or tar.
High water in seal pot.

13. What are the things that an operator should avoid in taking care of the producers, in order to secure best results?

See that the coke which is charged into the producers is clean and dry, as excessive breeze and moisture will produce clinkers. Be careful that the gas outlet port in back of the producers is not obstructed with coke or clinker. This will cause back pressure at the charging doors and should be remedied at once. See that steam pressure is always turned on under the fire bed. Clean the fire in a thorough manner and brush off the ash doors before closing so that they are perfectly tight.

## ACCOUNTING SECTION

H. C. DAVIDSON, Chairman — DEWITT CLINTON, Vice-Chairman
H. W. HARTMAN, Secretary

### MANAGING COMMITTEE—1925

ARMSTRONG, J. J., Toronto, Ont., Canada. (Canadian)
BISCHOFF, W. H., Savannah, Ga.
BLANCHFIELD, JOHN I., Brooklyn, N. Y.
CARMICHAEL, E. T., Elkhart, Ind. (Indiana)
CASSELL, W. H., Baltimore, Md.
CHALMERS, W. D., Baton Rouge, La. (Southwestern)
CLINTON, DEWITT, Worcester, Mass. (N. E. Assn. Gas Engrs.)
CONOVER, J. L., Newark, N. J.
DOERING, W. A., Boston, Mass.
ERLACH, PETER, Hammond, Ind.
HAASE, EWALD, Milwaukee, Wis. (Wisconsin)
HALL, H. B., East Braintree, Mass. (Gas Sales)
HALL, ISAAC S., Boston, Mass.
HEINS, J. W., Philadelphia, Pa.
JAMES, F. M., Aurora, Ill. (Illinois)
KELLER, A. R., Syracuse, N. Y.
KURTZ, ADAM, Detroit, Mich.
LAWALL, H. J., Philadelphia, Pa.
LAWRENCE, JAMES, New York, N. Y.
MCKANA, G. E., Chicago, Ill.
MEYERS, W. J., New York, N. Y.
PACE, H. M., Charleston, S. C. (Southern)
PATTERSON, F. H., Rochester, N. Y.
PETTES, W. H., Newark, N. J. (New Jersey)
PLATT, C. W., Portland, Ore. (Pacific Coast)
PORTER, EDWARD, Philadelphia, Pa. (Pennsylvania)
POTTER, O. F., Newark, N. J.
PRESSANO, E. P., Yonkers, N. Y.
REESE, J. G., Baltimore, Md.
REYNOLDS, A. E., Springfield, Mo. (Missouri)
SAUER, W. A., Chicago, Ill.
SCOBELL, E. C., Rochester, N. Y. (Empire State)
SEARING, R. B., Sioux City, Iowa. (Iowa)
SHORT, A. F., Providence, R. I.
SPEAR, M. H., Flushing, L. I., N. Y.
TOSSELL, A. L., Chicago, Ill.
WASSER, O. E., Ithaca, N. Y.

### CHAIRMEN OF SECTIONAL COMMITTEES ORGANIZED TO DATE

**Analysis of Gas Company Statistics**—H. J. LAWALL, Philadelphia, Pa.
**Customers Accounting Committee**—J. L. CONOVER, JR., Newark, N. J.
**Insurance**—J. G. REESE, Baltimore, Md.
**Nominating**—W. A. SAUER, Chicago, Ill.
**Relations with Customers**—W. A. DOERING, Boston, Mass.
**State Representatives**—A. L. TOSSELL, Chicago, Ill.
**Undistributed Structural Costs**—J. I. BLANCHFIELD, Brooklyn, N. Y.
**Uniform Classification of Accounts**—W. J. MEYERS, New York, N. Y.

# The Accountant's Message to the Convention

DO you like questionnaires? Do they come into your office just when your accounting department is "sweating blood" making up the annual reports? Do you like to answer foolish questions?

These's a real message for you and every accountant and executive in the report of the Sub-Committee on Standardization of Questionnaires before the Accounting Session.

The report analyzes all sorts of questionnaires—from all sorts of agencies—picks out the foolish and unnecessary questions and finally submits three proposed remedies for "The Questionnaire Evil." In speaking of standardization of questionnaires, Mr. Cremer states:

"It would insure uniformity in arrangement. We should insist especially that whenever a balance sheet or an income account is published, it must be set up in exactly the form prescribed by the Uniform System of Accounts. Some of the balance sheets and income accounts which have been rearranged by "financial statisticians" for presentation in investment manuals or statistical services have been weird, uncanny, dissimulative and synecdochical. They make one thing of Mark Twain's enumeration of three kinds of liars: 'liars, damned liars, and statisticians.'"

We don't know what "synecdochical" means, but we are sure it is worth going to the meeting to find out.

To know just what it costs you to render each class of service! Many a manager has burnt the midnight oil on this problem—and there is none more fundamental before the industry today.

*That's* what they tell you how to do in the report of the Sub-Committee on De-

velopment of a Cost System for Gas Companies. And they not only discuss the theoretical structure of an adequate cost system—they give you an actual application of the system to the figures of a specific company. Here are some of the tables submitted:

Of course these are only a few of the things you'll hear and enjoy at the Accounting Sessions. There'll be a dandy paper on the Purchasing Agent that will interest you all; a report on Undistributed Structural Costs that is of great importance to all companies; the Insurance Report; a splendid exposition of how one company solved their customer accounting problems and went over to centralized billing on a combination bill—all in one fell swoop; and last but not least—don't forget the Accounting Exhibit. Our style's a little cramped in talking of the Accounting Exhibit because we understand there's a "s'prise" and we can't tell what it is. But anyway, don't miss the exhibit or you'll miss a darn good show.

TABLE B—STATISTICAL DATA

| | Gas Sales | | Gas Sent Out | | Gas Unaccounted For | Operating Revenue | | |
|---|---|---|---|---|---|---|---|---|
| | M.C.F. | % of Total | M.C.F. | % of Total | | Amount | Per M.C.F. Sold | % of Total |
| Domestic | 1,300,000 | 71.4 | 1,398,400 | 72.1 | 6.84 | $1,400,000 | $1.077 | 74.6 |
| Commercial | 175,000 | 9.6 | 180,000 | 9.3 | 2.77 | 166,250 | .950 | 8.9 |
| Industrial | 325,000 | 17.9 | 340,000 | 17.5 | 4.41 | 292,500 | .900 | 15.6 |
| Other Gas Corporations | 20,000 | 1.1 | 20,900 | 1.1 | 4.31 | 17,000 | .850 | 0.9 |
| Total | 1,820,000 | 100.0 | 1,936,300 | 100.00 | 6.01 | $1,875,750 | $1.0306 | 100.0 |

| | Maximum 24 Hour Production Demand | | | | Maximum 15 Minute Dist. Demand | | | | Customers | | Meters | | Services | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | For Each Class of Service at Time of System Maximum Demand | | For Each Class of Service at Time of Its Maximum Demand | | For Each Class of Service at Time of System Maximum Demand | | For Each Class of Service at Time of Its Maximum Demand | | No. in Each Class | % of Total | No. in Each Class | % of Total | No. in Each Class | % of Total |
| Domestic | 4,000 | 66.1% | 5,000 | 69.0% | 125 | 68.7% | 200 | 68.0% | 44,500 | 92.9 | 45,000 | 92.8 | 40,000 | 92.4 |
| Commercial | 500 | 8.3 | 600 | 8.3 | 15 | 8.2 | 30 | 10.2 | 1,950 | 4.1 | 2,000 | 4.1 | 1,800 | 4.2 |
| Industrial | 1,500 | 24.8 | 1,600 | 22.0 | 40 | 22.0 | 60 | 20.4 | 1,450 | 3.0 | 1,500 | 3.1 | 1,475 | 3.4 |
| Other Gas Corporations | 50 | .8 | 50 | .7 | 2 | 1.1 | 4 | 1.4 | 1 | — | 1 | — | | — |
| Total | 6,050 | 100.0 | 7,250 | 100.0 | 182 | 100.0 | 294 | 100.0 | 47,901 | 100.0 | 48,501 | 100.0 | 43,275 | 100.0 |

Don't miss these reports.

And then perhaps you've noticed how important the telephone is in conducting your business—and perhaps you haven't. Perhaps you've just taken it for granted.

But if you really want to know how important the little receiver is in improving your service—what it can do to improve your public relations—or to wreck them—don't miss the report—The Gas Company and the Telephone.

The reports of the Committee on Relations with Customers have always been interesting—and there's no fall down this year.

Gas Company Policies in Dealing with Customers is a large subject and a somewhat elastic one. Even if your policies are adequately handling your situation today, it is a subject you can well afford to review.

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A. W. YOUNG, until recently general manager of the Knoxville (Tenn.) Gas Company, celebrated his twenty-fifth anniversary of connection with that company in July by stepping aside and requesting the appointment of H. G. Bonner to relieve him of the more arduous duties in connection with the operation of the utility. Mr. Young will remain, however, as acting vice-president.

## PUBLICITY AND ADVERTISING SECTION

F. L. BLANCHARD, Chairman — A. W. HAWKS, Jr., Vice-Chairman
CHARLES W. PERSON, Secretary

### MANAGING COMMITTEE—1925

BENNETT, J. M., Philadelphia, Pa.
BORDEN, A. W., Hastings, Neb.
BURNS, J. J., St. Louis, Mo. (Missouri)
CADWALLADER, F. D., Brookline, Mass. (Gas Sales of N. E.)
CLARK, HARLOW C., Newark, N. J.
COONEY, E. J. Lowell, Mass.
CRONE, F. W., New York, N. Y. (Empire State)
FISHER, R. E., San Francisco, Calif.
FRANK, M. H., Fond du Lac, Wis.
FRANKLIN, S. J., Millville, N. J. (New Jersey)
GARDINER, E. F., Chicago, Ill.
JARMAN, F. A., Ottawa, Ont., Canada. (Canadian)
LACEY, W. R., Milwaukee, Wis. (Wisconsin)
LIGHTBODY, JAMES, Vancouver, B. C.
LIVINGSTON, R. E., New York, N. Y.
LUCAS, JOHN PAUL, Charlotte, N. C. (Southern)
MCKINNEY, C. B., Dallas, Texas. (Southwestern)
MCMAHON, J. J., Cleveland, Ohio.
MULLANEY, B. J., Chicago, Ill. (Illinois)
MYERS, G. L., Portland, Ore.
POTTER, CLYDE H., Los Angeles, Calif.
RAY, DON, San Francisco, Calif. (Pacific Coast)
RICHARDSON, J. S. S., Philadelphia, Pa. (Pennsylvania)
SCRANTON, GEORGE H., Derby, Conn. (N. E. Gas. Engrs.)
SHUPP, J. E., Lincoln, Nebr. (Iowa)
SPRAGUE, L. D., New Albany, Ind. (Indiana)
STARR, L. K., Atlanta, Ga.
STELLE, OMAR P., Mount Clemens, Mich. (Michigan)
WATT, A. C., New York, N. Y.

# The First National Conference on the Information Committee Movement

WHEN Samuel Insull, on April 1, 1919, organized the Illinois Committee on Public Utility Information and placed B. J. Mullaney in charge, he knew he had hit upon something which would be of incalculable benefit to the entire utility industry.

That Mr. Insull was right in his appraisal of the value of the state committee plan in placing facts on the utility business before the public in such a way that they could be understood, is proven by the amazing growth that this movement has had within the last four years.

Today there are twenty-eight committees operating in thirty-six states of the Union. Their function is the dissemination of incontrovertible facts about public utilities. In general, they furnish a news service to all the newspapers in their territories and answer questions on the public utility business by anyone interested. Nineteen of them have speakers' bureaus, supplying talks wherever wanted. Eighteen are carrying on active committee work in schools, and sixteen are co-operating with schools and colleges. Regular display advertising service is supplied by nine of the committees, and all of them help companies on request.

From its inception the state committee movement has been actively and effectively supported by the American Gas Association through its Executive Board, headquarters' personnel and committee organization. At each annual convention since 1919, the Publicity and Advertising Section has devoted a part of its program to the committee project, and several speakers on the general program have explained the plan to the gas men in attendance and have urged them to give the movement their earnest support.

This year, however, the entire program of the Publicity and Advertising Section has been built around the work of the state committees, under the title, "National Conference on Information Committee Work." This is in no way to be considered as a belated acknowledgment of the value of the committee movement but rather as a tribute to the

splendid results that the committees have accomplished, with a special appeal to gas men everywhere to get behind this movement and give it one hundred per cent co-operation.

It is believed that the gas industry does not fully understand the aims and purposes of the state committee work; how a committee operates; how it is supported, and what it can and cannot do for the gas companies of this country. Accordingly, a program has been made which covers the movement from beginning to end. The best speakers in the industry have been chosen to deliver addresses. The presence of such men as H. C. Abell, C. A. Munroe and P. H. Gadsden on the programs for Wednesday and Thursday afternoons gives a good idea of the importance that is attached to these meetings.

This will be one of the few annual meetings of utility men in this country at which all of the directors of committees will be present. Furthermore, the chairman of committees will accompany them, and all will take part in the program. It will be a national conference in the true sense of the term, and every executive who attends the convention should make it a point to be present on Wednesday and Thursday afternoons and learn at first hand why the gas industry should support the committee movement.

## APPLIES FOR NEW PERMIT

THE FIRST APPLICATION for revocable permit in the State of Oklahoma, following the recent passage of the law in the legislature, is before the Corporation Commission at this time. It was filed by the Okmulgee Gas Company, whose franchise expired July 20th. The Commission has expressed the opinion that the law is now in effect and that it will be so regarded until some court rules otherwise.

Under a clear interpretation of the law the duty of the Corporation Commission is purely ministerial. As the commission itself takes this view, its only office is to certify that applicants for benefit of the law have furnished evidence of having complied with its requirements by surrender of their local franchises, etc.

## Utility Heroes to Get U. G. I. Company Award

HEROES and heroines of the workaday world, men and women who forget self and subordinate personal safety in order to maintain gas, electric or street railway service, are to be honored by The United Gas Improvement Company.

The Samuel T. Bodine Meritorious Service Award, named after the president of The United Gas Improvement Company, will be given to employes of all public utility companies controlled or operated by The United Gas Improvement Company for "extraordinary effort, without regard to self, toward maintaining uninterrupted service, or toward restoring interrupted service, or in some manner indicating exceptional fidelity to the public interest."

One of the distinctive features of the award conditions is that the honor shall not be conferred merely for the saving or the risking of human life. The feature of service to the public must be present.

Further, according to the announcement, the act of heroism must occur in the territory of the company, although in the discretion of the Meritorious Service Board, the award may be given for an exceptional act elsewhere.

## UTAH'S NEW HOUSE ORGAN

THE UTAH GAS AND COKE COMPANY of Salt Lake City has entered the periodical field, literally with both feet. During August there appeared the fifth issue of a monthly "tabloid" devoted to the interests of gas customers, and the first issue of an employes' bulletin, which is also to make its bow once a month. The former is appropriately called "The Utagas Pilot"; the latter is to be known as "Tid Bits."

The Pilot is one of the best combinations of good looks and economy that has arrived in some time, and its make-up is in the approved standards of modern journalism. We predict a long life for this as well as for Tid Bits, which, we also predict, will not long be contented to remain within its present four-page limits.

## MANUFACTURERS SECTION

WENDELL L. SMITH, Chairman — W. E. DERWENT, Vice-Chairman
C. W. BERGHORN, Secretary

### MANAGING COMMITTEE—1925

AARON, C. T., Newark, N. J.
BARTLETT, C. E., Philadelphia, Pa. (New Jersey and Pennsylvania.)
BEAN, G. W., Washington, D. C. (Southern)
BRUCE, HOWARD, Baltimore, Md.
DERWENT, W. E., Rockford, Ill. (Wisconsin)
HAMILTON, P. H., Cleveland, O.
HOBBS, G., Toronto, Ont., Canada. (Canadian)
HOLLINGER, A. L., Chicago, Ill. (Indiana)
JEFFERSON, W. H., New York, N. Y.
JOHNSON, H. J., New York, N. Y.
LEMKE, F. A., Kalamazoo, Mich.
LOWE, JOHN, New York, N. Y.
McDONALD, DONALD, New York, N. Y.
MUELLER, R., Decatur, Ill.
NORTON, A. E., Boston, Mass., (N. E. Gas Engr.)
OSTERMAN, P. C., Elizabeth, N. J.
RAMSBERG, C. J., Pittsburgh, Pa.
ROPER, GEO. D., Rockford, Ill. (Illinois and Iowa)
SEIDENGLANZ, C. H., Dallas, Texas. (Southwestern)
SEAVER, KENNETH, Pittsburgh, Pa.
STITES, TOWNSEND, Gloucester, N. J.
STOCKSTROM, A., St. Louis, Mo. (Missouri)
WELLS, F. K., Boston, Mass. (Gas Sales of N. E.)
WESTON, J. A., Detroit, Mich. (Michigan)
WHITELAW, H. L., New York, N. Y.

### CHAIRMEN OF SECTIONAL COMMITTEES ORGANIZED TO DATE

**Exhibition**—WENDELL L. SMITH, Battle Creek, Mich.
**Nominating**—GEO. W. PARKER, St. Louis, Mo.
**Laboratory Equipment**—DONALD McDONALD, New York, N. Y.
**Division of Accessories Manufacturers**—R. MUELLER, Decatur, Ill.
**Division of Apparatus & Works Manufacturers**—JOHN LOWE, New York, N. Y.
**Division of Gas Range Manufacturers**—CHARLES T. AARON, Newark, N. J.
**Division of Heating Appliance Manufacturers**—H. L. WHITELAW, New York, N. Y.
**Division of Industrial Appliance Manufacturers**—P. C. OSTERMAN, Elizabeth, N. J.
**Division of Lighting Appliance Manufacturers**—TOWNSEND STITES, Gloucester, N. J.
**Division of Meter Manufacturers**—W. H. JEFFERSON, New York, N. Y.
**Division of Office Labor Saving Devices**—H. J. JOHNSON, New York, N. Y.
**Division of Supply Manufacturers**—KENNETH SEAVER, Pittsburgh, Pa.
**Division of Water Heater Manufacturers**—P. H. HAMILTON, Cleveland, O.


# New Apparatus for A.G.A. "Lab."

By C. G. SEGELER, A. G. A. Headquarters

A THERMAL conductivity apparatus (Fig. 1) and other appliances for measuring air-gas ratios have been developed by the Bureau of Standards for the new Testing Laboratory of the American Gas Association at Cleveland.

In spite of the rather formidable sounding name, the basic principles on which this first appliance operates are not at all difficult to understand and are well known to every student of physics. All materials transmit heat, and they transmit it at varying rates, dependent on composition and state.

The metals are the best conductors, the gases, the worst. The metals have more than 1000 times the heat conductivity of the best gases, hydrogen and helium, which in turn are about seven times as good conductors as the other common gases. The thermal conductivity apparatus is a device for determining gas composition by comparing the heat transmission of an unknown sample with that of air as a reference standard.

The history of the development of this apparatus is rather interesting because its application has remained practically unknown in the technical world even though a number of independent investigators had established the essential simplicity and accuracy of the method as long as ten years ago.

In its essentials the thermal conductivity apparatus consists of two cells, electrically connected so that any variation in the electrical resistance of the cells can

be easily and instantly measured. A fine platinum wire extends through the full length of the cells, which are carefully machined from a thick brass block about 6″ high and 1″ square. The platinum wire is, of course, electrically insulated from the brass.

Air is kept in the comparison cell, but the test cell is so arranged that a slow stream of unknown sample can be drawn through it. The apparatus devised by the Bureau of Standards is practically unaffected by variations in the rate of flow or pressure of the sample.

The platinum wires are heated to about 100° F. by means of a constant electric current. A certain amount of heat is transmitted by the surrounding gases to the brass wall of the cell. In order to prevent convection currents as far as

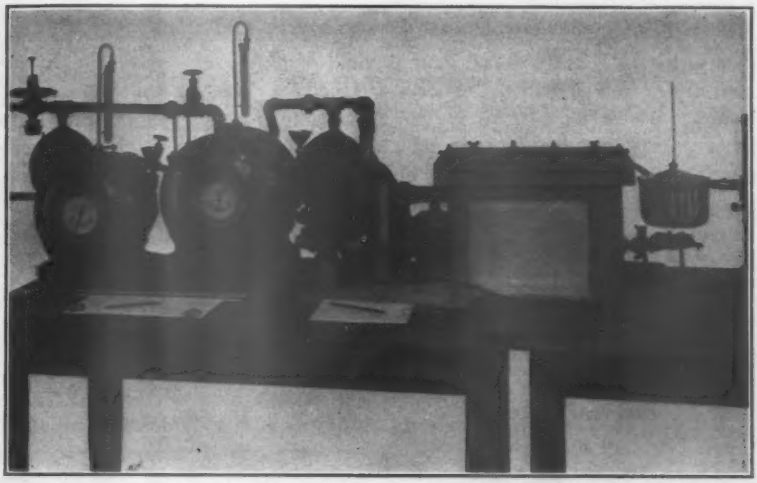
**Fig. 1. Thermal Conductivity Apparatus for Measuring Air-Gas Ratios Installed by U. S. Bureau of Standards.**

possible, the cells are made with a very small bore, and, by means of suitable seals, the heat conducted along the wire is also reduced to a minimum.

As we have said before, measuring and reference cells are made identical so that conduction and convection losses are equal in each. The electric resistance of platinum wire varies with its temperature, and the temperature of the wire will vary with the rate at which its heat is carried away by the surrounding gases. Thus, by maintaining the same current through the comparison and the test cell, the difference in thermal conductivity of the gases in the respective cells will change the temperature of the wires and correspondingly their resistance. By means of a Wheatstone Bridge, the resistances are measured, and, from a previous calibration of the instrument, the analysis of the unknown sample can readily be determined.

In its elementary form the thermal conductivity apparatus is used to determine air-gas ratios in burners. By the use of suitable refinements, the thermal conductivity apparatus can also be applied to the accurate estimation of carbon monoxide in flue products.

The instrument is first calibrated by measuring the relative thermal conductivity of known mixtures of air and the gas with which the burner is intended to operate. Having calibrated the instrument, a test can be made very quickly by tapping a small hole into the burner at the point where it is desired to obtain the air gas ratio, leading some of the mixture into the cell. A few moments will be required to establish the equilibrium, and then the resistance is measured. Reference to the calibration curve will show what percentage of air and gas were present in the mixture.



Air-Gas Ratio Box for A. G. A. Testing Laboratory.

The thermal conductivity apparatus is the quickest and best means for measuring air-gas ratios, but for purposes of absolute determinations directly upon the mixture, a second appliance will be installed in the laboratory for the same purpose. This is known as the air-gas ratio box.

When an atmospheric burner is to be

tested, it is placed so that just the primary air mixer extends inside of the box and the burner, as in actual practice, is out in the open air. A metered gas line passes through the box and is connected in the usual manner to the orifice of the burner. The box has a removable cover which can be left open or closed, tight sealing with a rubber gasket.

In order to determine the air-gas ratio of a given burner, it is first operated with the box cover open, that is to say, just as it would be operated in an appliance. A tapping in the burner head is connected to a very sensitive slope gauge filled with xylene and capable of registering changes in pressure as low as 1/1000 in. The burner is put in operation and the pressure of the air-gas mixture in the burner head accurately noted on the slope gauge. By a series of very careful and illuminating experiments, it was determined that whenever a given pressure was duplicated in a burner with unchanged gas consumption and gas pressure, that the amount of primary air injected into a burner was the same.

Watching the slope gauge, the air valve is cracked open just enough to supply air at a rate which would duplicate the burner head pressure which has previously been noted. Reading the gas meter and air meter simultaneously will show the relative proportion of each which the burner is using.

This experiment can be done very rapidly and can be repeated for an infinite number of gas pressures, orifice sizes, air injectors, or any other of the many variables which may be changed in an effort to improve combustion conditions.

It is of the utmost importance in this work that the gas and air supply do not vary in pressure even the slightest fraction of an inch during the test. To this end, pressure regulators of the mercury float or diaphragm type are used to keep respective pressure quite constant, but, since the slightest changes will seriously affect the results, it is necessary to iron out all fluctuations, and, therefore, gas bags are used in addition to the pressure regulators as anti-fluctuators.

Even so small a pulsation as that caused by the wet test meter action is detrimental, but it was found that the rubber balloons attached to tees on the line effectively maintained a uniform pressure. As a protective measure, part of the box is cut away and an explosion head of parchment paper is shellacked over the opening. In the first work done by means of this testing device at the Bureau of Standards this safety feature proved most valuable.

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## New Exhibitors for the Seventh Annual Convention

SINCE THE PUBLICATION of the lists of exhibitors in the two previous issues of the MONTHLY, the following companies have been allotted space at our coming Convention.

| | |
|---|---|
| Arca Regulators, Inc. | New York, N. Y. |
| Niagara Water Heater Co., Inc. | Buffalo, N. Y. |
| The Chapman Valve Mfg. Co. | Indian Orchard, Mass. |
| The Dunham Co. | Berea, Ohio |
| Ingersoll-Rand Co. | New York, N. Y. |
| The Linde Air Products Company | New York, N. Y. |
| Logan County Coal Corp. | Cincinnati, Ohio |
| Protecto Safety Appliance Co. | Newark, N. J. |
| Sullivan Machinery Co. | Chicago, Ill. |
| Sweet & Doyle Foundry & Machine Co. | Troy, N. Y. |
| U. S. Tool Co., Inc. | Ampere, N. J. |

## INDUSTRIAL GAS SECTION

H. O. LOEBELL, Chairman — F. F. CAULEY, Vice-Chairman

C. W. BERGHORN, Secretary

### MANAGING COMMITTEE—1925

ALLINGTON, J. B., Rochester, N. Y.
ANDREW, H. O., New York, N. Y.
BROUGHTON, H. E., Jackson, Mich. (Michigan)
CLARK, H. H., Chicago, Ill. (Illinois)
DE CORIOLIS, E. G., Boston, Mass.
DEFREITAS, W., New York, N. Y.
GUMS, J. H., San Francisco, Calif.
HARDING, D. J., York, Pa. (Pennsylvania)
HENRY, H. M., New York, N. Y.
HEPBURN, W. M., New York, N. Y.
HILTON, C. A., Pawtucket, R. I. (Gas Sales of N. E.)
HOLMAN, H. B., St. Louis, Mo. (Missouri)
HORN, R. J., Texarkana, Tex. (Southwestern)
KRAUSSE, C. C., Baltimore, Md.
LEINROTH, J. P., Newark, N. J.
MUTTENET, F. X., Hammond, Ind. (Indiana)
MOREHEAD, JR., I. H., Atlanta, Ga. (Southern)
MUEHLBERG, C. E., Denver, Col.
PETERSON, C. G., Providence, R. I.
QUINN, J. F., Brooklyn, N. Y.
QUINN, J. J., Quincy, Mass. (N. E. Gas Engrs.)
RAMSAY, R. E., Philadelphia, Pa.
SCHUETZ, A. A., Milwaukee, Wis. (Wisconsin)
SELLMAN, N. T., New York, N. Y.
SLIMPIN, C. D., Montreal, Canada. (Canadian)
SMITH, H. H., Boston, Mass.
STAHL, C. R., Davenport, Iowa. (Iowa)
STEPHANY, E. J., Pittsburgh, Pa.
THOMPSON, W. D., St. Louis, Mo.
WATSON, H. E. G., Toronto, Ont., Canada.
WHITWELL, G. E., Tacoma, Wash. (Pacific Coast)
YOUNG, R. R., Newark, N. J. (New Jersey)

### CHAIRMEN OF SECTIONAL COMMITTEES ORGANIZED TO DATE

**Advertising**—F. F. CAULEY, Chicago, Ill.
**Contact with Committee on Cooperation with Educational Institutions**—J. J. QUINN, Quincy, Mass.
**Education of Industrial Salesmen**—J. P. LEINROTH, Newark, N. J.
**Nominating**—H. H. CLARK, Chicago, Ill.
**Policy**—F. F. CAULEY, Chicago, Ill.
**Progress**—C. C. Krausse, Baltimore, Md.
**Publicity**—H. O. ANDREW, New York, N. Y.
**Rates**—H. O. LOEBELL, New York, N. Y.
**Research**—J. B. ALLINGTON, Rochester, N. Y.
**Survey**—R. E. RAMSAY, Philadelphia, Pa.


# Developing an Industrial Sales Force

By ALLEN ADDICKS, Public Service Electric & Gas Co., Newark, N. J.

THE work of the industrial gas salesman is most varied. There are very few professions that demand the characteristics of a diplomat, salesman, business man, and engineer, yet these are precisely the qualities necessary to the successful industrial gas engineer.

In considering such a broad subject, it is perhaps best to begin with the past and present selection of the men for this work. Twenty years ago industrial gas had little recognition as such. The men who handled this then unimportant business were for the most part drawn from the rank and file of domestic salesmen, who, as this class of business enlarged, grew with it in knowledge and experience.

But, with the enormous expansion in industrial consumption which most authorities agree is about to take place, it is desirable that the new men necessary to carry on this work be graduates from recognized technical schools. With such an education they can anticipate much of their work to start with and, under the guidance of the older men, can master in a comparatively short time the fundamental principles underlying gas applications.

Such men while at college should have shown at least normal aptitude for their engineering studies and an ability to mix, their former interest in school activities and athletics usually being an indication of this qualification. It is evident at once that such types are above the average, and to obtain them the gas industry should promote and "sell" the idea of gas to the colleges themselves. Until the considerable inducement this field offers

is apparent to all, we shall not receive the best material.

Having obtained the men, the next step is to train them. At least six months should be devoted to this purpose before they are sent out in the field. This may seem rather long, but it is none too much for the information and knowledge to be assimilated when we consider that many large industrial organizations have two- and three-year apprenticeships.

**Time Should Be Spent Getting Familiar with Appliances He Is Eventually to Handle.**

Since in future their main interest is to be gas, at least one of these six months should be spent at the start in the gas plant proper. It is not expected that an extensive technical knowledge of gas manufacture can be obtained in this period, but some conception of this phase of the work should be obtained.

Having familiarized himself somewhat at first hand with this broad industry, the embryo industrial engineer can be placed in the industrial gas office. There he should read the applicable portions of books, such as the "Practical Gas Educational Course," published by the National Commercial Gas Association in 1915, supplementing his reading with questions to the older men around him.

A suitable list of books should be studied, such as the following:

N. C. G. A. Lessons on Industrial Fuel.
N. C. G. A. Reference Books (9).
Selected parts of the "Catechism of Central Station Gas Engineering."
Any authoritative treatise on the heat treatment of steel.
Books on salesmanship and general business.

Other activities will occur to the initiate. In the industrial show room are some of the appliances he is eventually to handle, and time must be spent in becoming familiar with them. He should be taken by the experienced men on service calls and spend several days, if trade relations permit, at any gas appliance manufacturing plants that happen to be nearby. While other men are in the field, he should be in charge of the office and showroom, thereby obtaining some selling experience. Finally, towards the close of the six months, several weeks should be spent with the distribution department, as later on it will be necessary to co-operate with this branch.

So much for the early training of the salesman. Now let us consider the actual sale of industrial gas.

Naturally, in selling any commodity, some data must be obtained and studied to estimate the available market. This means that every consumer or potential consumer of gas should be recorded on what we will call factory data cards. These should contain, in addition, a list of all gas appliances installed; a similar list of any equipment employing competitive fuels, such as oil and coal, with the amounts used of the same; the name of the superintendent or company official usually inquired for, and any other desirable information. They should be cross indexed with cards giving the monthly consumption of each consumer, and with field cards that record the date and num-

ber of visits paid, together with any extra information gained at the time.

The factory data cards can be grouped advantageously. Let us consider this hypothetical territory, consisting of 600 cards and a monthly gas consumption of 20 million cubic feet.

| | No. of F. D. Cards | Range in Consumption | Total Combined Cons. | % Monthly Cons. |
|---|---|---|---|---|
| A 1. | 20 | 100,000-4,000,000 | 12,000,000 | 60 |
| 2. | 60 | 20,000-100,000 | 5,000,000 | 25 |
| 3. | 40 | large competitive fuel consumers (oil, coal, etc.) | | (85%) |
| B 4. | 360 | 2000-20,000 | 3,000,000 | 15 |
| 5. | 120 | small competitive fuel consumers | | |
| | 600 | | 20,000,000 | 100% |

By keeping the cards in the two divisions, A and B, a salesman who averages five calls per day, evenly distributed between the two groups, will see 85% of his territory's consumption and all large competitive fuel prospects at least once every two months, and the small consumers and prospects, who represent but 15%, from one to two times a year. This is merely a general summary, of course, as some consumers may require calls every week. If the salesman is entering virgin territory, where no such records are on hand, the first step is to obtain this information.

Consumers in group B, whom it is not practical to call on personally more than twice a year, should be kept in more frequent contact by means of the mails. Monthly letters should be sent out, telling of new uses of gas, the free service and inspection of the industrial department, or the probable scarcity of our oil supply in the near future.

Among the many channels available for this is the "Industrial Gas" magazine, a subscription to which should be given free to all manufacturers falling in group A of the factory data card classification.

The important aspect of this work is to sell gas, and the salesman's position is strongest when he is not required to handle appliances. Men of this type are really as much consulting engineers as salesmen, and when they can assume the former position in the eyes of the prospect, they best obtain his confidence. Thus, in interviewing a manufacturer, a presentation of the subject may be made as follows—

"Mr. Blank, the company is sending me to their industrial gas consumers to see if there are any complaints, or if there is anything we can do to make the service more satisfactory. Perhaps, if you let me go through the plant, I can detect any equipment that is not working properly, or wasting gas."

In this manner the manufacturer's confidence is obtained, and he is in a favorable position to approach on the subject of gas itself. Thus, after going through the plant, it may be pointed out that temperature control can be utilized to advantage here, that, if such and such an operation were done by gas instead of oil, considerable labor saving should result, and so on. At this point it is a simple matter to take up the subject of equipment—

"Mr. Blank, we are not interested in equipment sales, and so are in a position to recommend only that equipment which we feel, in the light of our experience in these matters, will give you the best service. I feel certain that if you installed a —— Furnace made by the —— Company, you would find it well worth while in this operation,"—and so on.

Then the selling points of the particular equipment involved can be gone into with the superintendent with more trust on his part than he would feel if the sale

of the equipment itself were the matter at stake. Furthermore, such a procedure, besides obtaining larger gas sales for a gas company, aids the appliance manufacturer by the amount of his discount to the gas company, and thus enables him to increase his research work and development of appliances, so necessary if gas utilization is to grow to large proportions.

If the salesman is required to handle appliance sales, a somewhat different presentation of the subject must be made. After inspecting the plant and rendering whatever services possible, the subject may be broached in this way—

"Mr. Blank, as a gas company our main business is to sell gas. For that reason we only handle equipment which we feel will give you the greatest satisfaction in the use of gas, and encourage you in the use of it. By dealing through us you are safeguarded, as we have had long experience in these matters, etc., etc."

In obtaining interviews it is best to start with the highest authority possible. If the president sends the representative down to the superintendent, or foreman, he will receive very respectful attention. Secondly, seeing the president first makes it possible to go over the heads of lesser people on very important matters without causing any offense.

Often it is difficult to portray the advantages of certain gas burning appliances by word of mouth. The superintendent may be busy, and the genius of a Steinmetz could not, perhaps, give him a clear idea of the workings of a heat controller or a carbonizing machine and their advantages. If there is a large appliance manufacturer within reasonable distance, it is a great help to take superintendents of every factory of any size in the territory down to the plant in a company car. It is not difficult to get them to go.

The industrial gas salesman is called upon to make plant surveys. These are designed, of course, to aid in replacing competitive fuels by gas and present data to the prospect showing how much the present procedure is costing him versus the proposed use of gas.

But, in addition, they serve another purpose. Even though gas rates may be too high to render it possible to obtain the business under existing conditions, still the data obtained from such a survey is of great value. It should indicate, for example, what reduction in gas rate could add this new business to the company's lines. Again, by pointing out the manufacturer's costs—for many have no idea of them—a rise in price of oil or coal may cause him to switch immediately to the gas company, as the survey will show at what point it is to his advantage to do so.

Industrial gas must receive recognition by all the gas companies before any large appropriation will be set aside for furthering this business. At the last American Gas Convention in Atlantic City, the retiring President, Mr. Klumpp, in addressing the Industrial Section, made the remark—

"There is nothing quite as important today in the gas industry as the development of the industrial gas business."

Coming from the President of the American Gas Association, this is a tremendous statement, yet how many gas company executives other than the industrial men themselves were present at this meeting? If a strong concerted effort is to be made in this huge field, it is vital that all departments be "sold" on this project.

## COMMERCIAL SECTION

J. P. HANLAN, Chairman  R. L. BURDICK, Secretary  J. B. MYERS, Vice-Chairman

### MANAGING COMMITTEE—1925

Adams, W. A., Chicago, Ill.
Ammerman, Ray, Jenkintown, Pa.
Atwood, B. H., Wilmington, Del.
Bailey, E. P., Jr., Cleveland, Ohio.
Bartlett, C. E., Philadelphia, Pa.
Bates, S. F., Macon, Ga.
Burke, E. J., Indianapolis, Ind. (Indiana)
Burns, J. J., St. Louis, Mo.
Canniff, R. J., Poughkeepsie, N. Y.
Capen, Frank, Boston, Mass. (Gas Sales of N. E.)
Clark, J. C. D., Boston, Mass.
Clay, Noble L., Winston-Salem, N. C.
Cooney, E. J., Lowell, Mass.
Coss, Wiley F., St. Louis, Mo. (Missouri)
Crankshaw, J. Ward, Allentown, Pa. (Pennsylvania)
Davies, J. E., Chicago, Ill.
Gaston, Luther, Birmingham, Ala. (Southern)
Gould, Wm., Boston, Mass.
Grady, Stanley, Philadelphia, Pa.
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Humm, A. W., New York, N. Y.
Johnson, W. B., Toronto, Ont., Canada. (Canadian)
Jones, Jacob B., Bridgeton, N. J., (New Jersey)
Karshner, G. M., New York, N. Y.
Kennedy, Thos. F., New York, N. Y.
Keys, Harvey A., Pittsburgh, Pa.
Klopf, G. C., Chicago, Ill. (Illinois)
Little, Stanley E., Lorain, Ohio.
Luther, C. A., Chicago, Ill.
Martin, E. H., Des Moines, Iowa. (Iowa)
Morris, W. A., Brooklyn, N. Y.
North, M. F., Fort Wayne, Ind.
Phenicie, C. R., Green Bay, Wis. (Wisconsin)
Post, A. P., Philadelphia, Pa.
Reagan, W. J., Utica, N. Y. (Empire State)
Smith, Dorsey R., Baltimore, Md.
Stotz, Louis, Philadelphia, Pa.
Swann, Ada Bessie, Newark, N. J.
Tudbury, John L., Salem, Mass. (N. E. Gas Engrs.)
Valentine, H. D., Chicago, Ill.
Wardell, C. W., Philadelphia, Pa.
Whitwell, G. E., Tacoma, Wash. (Pacific Coast)
Wiske, P. B., Brooklyn, N. Y.

### CHAIRMEN OF SECTIONAL COMMITTEES ORGANIZED TO DATE

**Architects and Builders**—W. A. Adams, Chicago, Ill.
**Gas Refrigeration**—H. D. Valentine, Chicago, Ill.
**Home Service**—Miss Ada Bessie Swann, Newark, N.J.
**Sales Stimulation**—R. J. Canniff, Poughkeepsie, N. Y.

# New Activities of Commercial Section to Be Discussed at Convention

THE program of activities outlined in the 1925 PLAN BOOK recently sent to all members was put into active operation even before the issuance of that pamphlet. The soundness of the plans, formulated with deliberation and care, for the three-year campaign to increase gas and appliance sales is already becoming apparent through the results even now accomplished.

### MONTHLY SALES SERVICE

The keystone of the entire Section program—the Monthly Sales Service—is now well into its second year; and the first issues of the Service in its new and more practical treatment of sales methods have been welcomed and commended by numerous subscribers. The value of this Service to the gas companies is obvious from the fact that 96 per cent of the subscriptions were renewed when they expired in May.

In order to enable the Sales Stimulation Committee and the editors of the Service to maintain and excel the standard of quality set up in the material already published, at least three hundred more subscriptions are needed. Not only as a support of this successful effort to build better sales for the industry in general, but more particularly for the immediate gain of the individual gas company, we urge all those companies not now on the subscription list to send for information about this Service.

### SALES CONFERENCES

The two Regional Sales Conferences already held this year at Lake Mohonk (N. Y.) and Gloucester (Mass.), have borne real fruit. Several of the com-

panies which sent the largest number of delegates to these meetings inform us that they obtained many practical ideas (as well as inspiration) from these conferences which they have applied to their own businesses to advantage. It is possible that more of these conferences will be held, after the October convention, in other localities.

### Regional Councils

The organization which will put the Commercial Section program into more localized operation is now being formed, namely, the Regional Councils. In each general geographical district a regional director (assisted by at least four others) has been appointed. The activities of these councils will include the assisting of gas companies in making local application of the campaigns and programs of the Section, and assisting the Section officers and committees in planning their work so as to provide material for local use. Among the contemplated plans to be inaugurated in the early autumn by the Regional Councils is the holding of regular and frequent local group meetings of gas company and manufacturing company sales executives.

### Committee Activities

Sub-committees of the Commercial Section will show rapid and extensive developments as a result of this year's work. The Home Service Committee has a record of increase in number of companies maintaining Home Service Departments which is remarkable. Much of this accomplishment has come through the personal efforts of the chairman and members of the Committee at state and regional association meetings, in visiting and assisting individual companies, as well as through publicity in the A. G. A. Monthly and the Sales Stimulation Service.

The Committee on Refrigeration by Gas has prepared what promises to be one of the "best sellers" of the year—a thorough, accurate and intensely valuable survey, handbook and report on domestic refrigeration by gas. This report will be the basic handbook for both manufacturers and gas companies in developing and selling the refrigeration load.

The work of the Architects' and Builders' Section Committee has forged ahead faster than before. The campaign plan-book for July in the Sales Stimulation Service, which covered in detail the organization and operation of gas company Architects' Service Department, created widespread interest and activity. In addition, the Committee has been working with various architectural and building associations, and with publications and handbooks in home design and building, to obtain greater recognition for adequate gas equipment in new and reconstructed buildings. The story of gas, and of proper provision for gas in homes will shortly be told to more than 15,000 contractors, speculative builders and home owners through paid catalog space which will appear in the Home Builders' Catalog.

The House Heating Committee has been active in studying particularly the sales phases of its branch of utilization and will present a valuable report in October.

### Section Convention Sessions

Only two business meetings of the Section will be held at Atlantic City, as the third afternoon (October 15) is being reserved for an official inspection of the exhibit—a plan formed by request of many members of the Section. The two regular sessions are packed full of meaty subjects which will be handled both by members and by other authorities outside the industry of the same calibre as those at the Regional Sales Conferences. Prof. George Burton Hotchkiss, of New York University, whose address at Mohonk was so valuable, will represent the Section on the General Program.

## TECHNICAL SECTION

R. C. CORNISH, Chairman — J. P. HAFTENKAMP, Vice-Chairman
H. W. HARTMAN, Secretary

### MANAGING COMMITTEE—1925

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LYONS, B. F., Beloit, Wis. (Wisconsin)
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PERRY, J. A., Philadelphia, Pa.
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SEYMOUR, F. W., Battle Creek, Mich.
SNYDER, A. I., Detroit, Mich.
STRENG, L. S., Louisville, Ky.
VITTINGHOFF, H., Boston, Mass.
WEBER, F. C., New York, N. Y.
WILLIAMS, C. T., Sioux City, Iowa. (Iowa)
WILLIEN, L. J., Boston, Mass.
YARD, W. S., San Francisco, Calif. (Pacific Coast)

### CHAIRMEN OF SECTIONAL COMMITTEES ORGANIZED TO DATE

**Carbonization**—A. M. BEEBEE, Rochester, N. Y.
**Cast Iron Pipe Standards**—WALTON FORSTALL, Philadelphia, Pa.
**Condensing and Scrubbing Committee**—D. W. FLOWERS, St. Paul, Minn.
**Chemical Committee**—A. F. KUNSBERGER, Philadelphia, Pa.
**Distribution**—H. E. BATES, Chicago, Ill.
**Measurement of Large Volumes of Gas**—M. E. BENESH, Chicago, Ill.
**Nominating**—L. J. WILLIEN, Boston, Mass.
**Revision of Catechism**—W. J. SERRILL, Philadelphia, Pa.
**Water Gas**—J. H. WARNICK, Elrama, Pa.


# Heat Transfer in Tubular Gas Condensers


By PROF. WILBERT J. HUFF, Johns Hopkins University, Baltimore, Md., Chairman of Sub-Committee on the Theory of Heat Exchange and Condensation


## INTRODUCTION

Wilbert J. Huff

THREE modes of heat transfer are recognized in problems involving the flow of heat. These modes are conduction, convection, and radiation.

(a) *Conduction*—Heat diffusing through a mass of matter, from particle to particle without appreciable displacement of the particles is said to flow by conduction.


(a) *Conduction*—Heat diffusing through a mass of matter, from particle to particle without appreciable displacement of the particles is said to flow by conduction.


(b) *Convection*—The transfer of heat by the movement of a stream of gas or liquid is called convection.

Both of these modes involve the transfer of heat in and through matter while the transfer of heat through the ether (i.e., space devoid of matter) involves the third mode.

(c) *Radiation*—The transfer of heat by radiation is best explained by the assumption of wave motions in the ether. In this, radiation is closely akin to light and obeys the same laws of reflection, refraction, polarization and interference. Heat waves are longer than light waves and so affect the senses differently.

All three modes of heat transfer occur in tubular gas condenser practice. The transfer of heat from the gas side of the metal tubes to the water side is brought about by conduction through the metal tubes, while convection brought about by the circulation of water carries the heat from the tubes to the waste water line. Radiation plays only a subordinate role in the tubular gas condenser, but is of some importance in carrying heat away from the standpipes and the hottest regions in the mains. Radiation imparts the glow to the cheek turned toward one of these hot lines.

### Radiation

Quantitatively, the radiation of heat obeys the expression

$$H = C\,(T_2^4 - T_1^4)$$

where H is the energy radiated in B.t.u. per hour, C a constant depending upon the area of the hot surface and the condition of the surface c, while $T_2$ is the temperature of the hot surface in degrees Fahrenheit absolute* while $T_1$ is the temperature of the cold surface in the same scale. In order to avoid large numbers the temperature T may be divided by 100 by increasing the value of C. For a hot surface having an area of one square foot whose condition is such that "ideal" or "perfect black body" radiation occurs, C takes the value 0.16 when T is divided by 100. The increase of radiation with the fourth power of the absolute temperature makes radiation of great importance at high temperatures.

Very little heat is radiated from a gas to a cold body at the temperatures encountered in tubular condensers. This is due to three factors (1) the absolute temperatures are relatively low (2) the temperature differences between the gas and cooling tube are small and (3) gas possesses very little or no appreciable power for radiating or absorbing heat. Water vapor, carbon dioxide and some other gases do absorb and radiate a small quantity of heat, but many other gases, among them nitrogen and oxygen, are practically inert. In consequence radiation effects are generally not considered in calculating heat inter-changes within tubular condensers.

These are, nevertheless, of interest in connection with some phases of the problem, as for example in the protection of the cold section of the condenser from the sun's rays. The loss of heat from stand pipes and mains ahead of the condenser, and errors in the determination of hot gas temperatures involve consideration of radiation phenomena, but are not strictly a part of the tubular condenser problem.

One of the chief problems in condenser operation is encountered at the hottest period of the summer, especially during those hours of the day when the temperature is at the maximum. Under these conditions, the entering cooling water is usually heated to such a temperature that the differential between this and the desired exit gas temperature is very small. In consequence the flow of heat is very slight and the gas is not sufficiently cooled. Radiation by direct sunlight upon the exposed outside cold surface of the condenser may be an important factor in heating up the cooling water. As much as 250 or 300 B.t.u. per square foot per hour may be transmitted to the exposed sunlit surface. Fortunately all of this heat may not be absorbed. A certain amount, depending upon the surface, is reflected. The following table indicates the percentage of absorption which may occur, and is based upon the "ideal black body" as expressed as 100%.

| Radiation and Absorption Coefficients | |
|---|---|
| Ideal Black Body | 1.00 |
| Bright Iron or Steel | 0.20 |
| Oxidized Copper | 0.72 |
| Aluminum Paint | 0.50 |
| Tin | 0.10 |
| Metal surfaces coated with tar or a rough coating of oxide | approx. 0.90 |

A certain amount of radiated sun heat may also be lost by convection and re-

*°F. absolute = °F. + 460.

radiation, but these losses only occur when the air temperature and the temperature of surrounding objects is less than that of the cold section, a condition which does not often exist at the maximum of the summer's temperature. The transfer of 250 to 300 B.t.u. per square foot per hour to the sunlit portion of a condenser may be a serious disadvantage in the cold section, for the lowest rate of heat transfer occurs in the final stage of cooling, and the heat radiated from the sun may be a large fraction of the total heat absorbed in the section. To minimize the absorption from the sun the exterior surface should be painted a suitable color in order to give a surface having a low absorption coefficient. The above table shows that aluminum paint may reduce the absorption about 40% below that of a black or oxidized surface. Cases brought to the attention of the committee have indicated that exit gas temperatures may thus be lowered as much as five degrees Fahrenheit or more on hot sunny days.

Those interested in the use of aluminum paint for this purpose or for the related problem of the lowering of the temperature on light oil tanks, are referred to the following reports:

Gardner, Circular 131, Paint Mfg. Association, 1921.
Schmidt, Report of Investigations, U. S. Bureau of Mines, Serial No. 2,677, March, 1925.
Edwards, J. D., Chem. & Met. Eng. Vol. 29, 1923, page 927.

These reports indicate that this expedient may lower tank temperatures as much as 10° F.

Where the exposed surface is at a temperature above that of the surrounding objects and the loss of heat from the surface is desired, aluminum paint should not be used. However, at surface temperatures of 350° F. or less, air convection currents take the major portion of the heat lost, and radiation is not of importance.

Thermometer and pyrometer errors due to radiation follow from two causes, first, the low radiation and absorption capacity of gases and the low rate of heat transfer from a gas to a solid surface. In consequence the hot gas stream may have a temperature quite different from the adjacent wall temperature. The thermometer or pyrometer usually receives heat very slowly from the gas stream and can readily "see" the cold walls because the gases interpose little or no screen. Consequently there is registered a temperature which represents a balance between the heat which is imparted by convection and the net amount of heat which is lost by radiation processes. If the temperatures involved are high, and the bulb is represented by a surface having a high radiation coefficient, while the gas velocity is low, the thermometer may register several degrees below the gas temperature.* This error is only of academic interest when applied to temperature measurements made upon gas condensers because the temperature differential between the tube wall and gas is rather small and the absolute temperatures are relatively low, thus reducing the radiated heat lost by the bulb, while the gas at the hot end in cooling deposits a considerable amount of water vapor, and so imparts its heat to the bulb at a comparatively high rate.

When appreciable thermometric errors may arise from radiation, the bulb should be screened by interposing an opaque material of high reflecting power. If desired some device to increase the gas flow past the bulb may also be adopted.

### The Conduction of Heat

Quantitatively, the conduction of heat through homogeneous materials follows the expression

$$H = \frac{kA(t_1 - t_2)}{L}$$ **

*See for example—Kreisinger & Barkley, Soc. Mech. Eng. May 1917. Royds, Heat Transmission by Radiation, Conduction and Convection—Van Nostrand, 1921, page 20.

**In this expression A is measured at right angles to the direction of flow and if A is different at the two surfaces involved a suitable average is taken.

i.e. the heat transferred in unit time is proportional to a coefficient k characteristic of the material, to the area of the section across which heat is flowing, and to the difference in temperature and is inversely proportional to the length of the path of flow.

Conduction transfers the heat from the gas side of the tubes to the water side, and in calculating this conduction three coefficients must be considered, namely; the conductivity of the tar film, the conductivity of the metal of which the tube is composed, and the conductivity of the rust or scale on the water side.

Fortunately, the conductivities of all of the metals used for condenser tubes are high as shown by the following table which gives the value of H in B.t.u. per hour per square foot of surface per foot thickness per °F temperature difference.

Conductivity of Common Condenser Tube Metals

| *Metal* | *Coefficient* |
|---|---|
| Steel | 25—32 |
| Cast Iron | 36 |
| Wrought Iron | 40 |
| Aluminum | 118—120 |

Since the tube wall in even the heaviest tube is but a fraction of an inch, it will readily be seen that the resistance to the flow of heat from one surface to the other is practically negligible when compared to the other resistances which rise in transferring the heat of the gas stream to the cooling water. For that reason, the selection of the tube metal will depend upon factors such as cost, strength, and life rather than heat transfer efficiency.

Concerning the heat transfer through the tar film, very little is known. In general it may be said that the conductivities of oil and tar films are very low. W. E. Ernst* found values ranging from .070 to .078 B.t.u. per square foot per hour per foot thickness per °F temperature difference. For equivalent thickness then, a stationary coating of tar will interpose more than three hundred times the resistance presented by steel. Unfortunately, no information is available which indicates the probable thickness of the stationary tar film, and it is probable that this will vary considerably depending upon the installation and operating conditions. It will probably be impossible to reduce this variation sufficiently to permit the formulation of accurate conductivity coefficients and this will probably offer an important obstacle to the development of an adequate theoretical treatment of the heat transfer problem in tubular gas condenser practice. Since the thickness of the tar film will depend in part upon the viscosity of the tar, design and operation should be such that the presence of dust in the gas entering the condenser is avoided. Work by M. Cordelou* has shown that the mixture of this dust with tar is one of the chief factors in the formation of the viscous masses commonly called "pitch" deposits.

Under some conditions the tar or pitch deposit may offer so much resistance to the flow of heat, its thickness and conductivity will be the determining factor in the transmission of heat from the gas to the water.

The conductivity of scale and rust is also a matter of much doubt. Numerical values found by Ernst (loc. cit.) give values for the conductivity coefficients which range from ten to twenty times that of tar, but these values do not give a true value of most operating conditions since this scale is generally porous and it is difficult to tell how much it may be penetrated by water. Much of the resistance to heat transfer interposed by rust films may be due to the entrapped stagnant water, and it is doubtful if the variations which may occur in this can be so controlled to permit the determination of accurate heat transfer coefficients.

*(Concluded in October issue)*

*Calculated from data given by Royds, loc. cit., page 221.

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HERBERT H. GANSER, manager of the Schuylkill district and John L. Mather, manager of the main line district, are the new vice-presidents of the Counties Gas and Electric Company who were chosen by the directors July 27, at a meeting in the U. G. I. Building, Broad and Arch Streets. Mr. Ganser started his public service career as a meter reader.

# Associations Affiliated with A. G. A.

**Canadian Gas Association**
Date of Affiliation—Mar. 25, 1919.
Pres.—J. J. Humphreys, Montreal Light, Heat & Power Co., Montreal, Que.
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.
Conv., 1926.

**Empire State Gas and Electric Association**
Date of Affiliation—Nov. 21, 1919.
Pres.—M. S. Sloan, Brooklyn Edison Co., Brooklyn, N. Y.
Chairman Gas Section—C. C. Atwood, The Brooklyn Union Gas Co., Brooklyn, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.
Annual Meeting, Lake Placid, N. Y., Oct. 1 and 2, 1925.

**Illinois Gas Association**
Date of Affiliation—Mar. 19, 1919.
Pres.—R. E. Chew, Union Gas & Electric Co., Bloomington, Ill.
Sec.-Tr.—R. V. Prather, 305 Illinois Mine Workers Bldg., Springfield, Ill.
Conv., Chicago, Ill., 1926.

**Indiana Gas Association**
Date of Affiliation—April 24, 1919.
Pres.—G. M. Johnson, Northern Indiana Gas & Electric Co., South Bend, Ind.
Sec.-Tr.—E. J. Burke, Room 1314, Peoples Gas Bldg., Chicago, Ill.
Conv., West Baden Springs, Ind., Sept. 21 and 22, 1925.

**Iowa District Gas Association**
Date of Affiliation—May 21, 1919.
Pres.—C. M. Benedict, Des Moines Gas Co., Des Moines, Iowa.
Sec.-Tr.—H. R. Sterrett, 551 Seventh St., Des Moines, Ia.
Conv., 1926.

**Michigan Gas Association**
Date of Affiliation—Sept. 18, 1919.
Pres.—B. G. Campbell, Consumers Power Co., Pontiac, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Conv., Mackinac Island, Mich., 1926.

**Missouri Association of Public Utilities**
Pres.—Wiley F. Corl, Community Power & Light Co., St. Louis, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Conv., 1926.

**New England Association of Gas Engineers**
Date of Affiliation—Feb. 19, 1919.
Pres.—H. N. Cheney, Boston Consolidated Gas Co., Boston, Mass.
Sec.-Tr.—J. L. Tudbury, 247 Essex St., Salem, Mass.
Conv., Boston, Mass., Feb. 24 and 25, 1926.

**Gas Sales Association of New England**
Date of Affiliation—Oct. 1, 1919.
Gov.—J. J. Quinn, Citizens Gas Light Co., Quincy, Mass.
Sec.—J. H. Sumner, 719 Massachusetts Ave., Cambridge, Mass.
Annual Meeting, 1926.

**New Jersey Gas Association**
Date of Affiliation—April 25, 1919.
Pres.—H. D. Whitcomb, Public Service Electric & Gas Co., Newark, N. J.
Sec.-Tr.—R. A. Koehler, Public Service Electric & Gas Co., Newark, N. J.
Conv., 1926.

**Pacific Coast Gas Association**
Date of Affiliation—Sept. 18, 1919.
Pres.—F. J. Schafer, Southern California Gas Co., Los Angeles, Calif.
Exec. Sec.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.
Conv., 1926.

**Pennsylvania Gas Association**
Date of Affiliation—April 10, 1919.
Pres.—Wallace G. Murfit, Bucks County Public Service Co., Newtown, Pa.
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
Mid-Year Meeting, Scranton, Pa., Dec. 7, 1925.

**Southern Gas Association**
Date of Affiliation—May 20, 1919.
Pres.—S. E. Linton, Nashville Gas & Heating Co., Nashville, Tenn.
Sec.-Tr.—J. P. Connolly, 141 Meeting St., Charleston, S. C.
Conv., New Orleans, La., March 15, 16, 17, 1926.

**Southwestern Public Service Association**
Date of Affiliation—September 26, 1923.
Pres.—W. E. Wood, Houston Electric Co., Houston, Texas.
Chairman Gas Section—P. E. Nicholls, Galveston Gas Co., Galveston, Texas.
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.
Conv., 1926.

**Wisconsin Utilities Association**
Date of Affiliation—March 25, 1919.
Pres.—G. H. Wilmarth, Northern States Power Co., Eau Claire, Wis.
Chairman Gas Section—S. B. Sherman, Wisconsin Gas & Electric Co., Racine, Wis.
Exec.-Sec.—J. N. Cadby, 445 Washington Bldg., Madison, Wis.
Conv., 1926.

## Geographic Divisions

**Eastern States Gas Conference**
Date of Formation—April 11, 1923.
Pres.—W. Griffin Gribbel, John J. Griffin & Co., Philadelphia, Pa.
Sec.-Tr.—R. A. Koehler, Public Service Electric & Gas Co., Newark, N. J.
Conv., 1926.

# Employment Bureau

## SERVICES REQUIRED

WANTED—Water heater salesman wanted by well-known manufacturer of automatic gas water heaters; preferably residing in Brooklyn, N. Y. Address A. G. A.
Key No. 056.

GAS COMPANY operating in the Metropolitan District, New York, offers a permanent position to a thoroughly qualified Street Main Foreman. Address giving experience, salary expected and when services are available. Answers will be considered confidential if desired. Address A.G.A.
Key No. 058.

DESIGNER—Well known manufacturer of high grade gas burning appliances has a position open for a competent man for experimental work and design of gas stoves, radiant heaters, tank water heaters, etc. Must be a practical man experienced with gases of various kinds and qualities. State fully your training, experience and salary expected. Address A. G. A.
Key No. 062.

WANTED—Thoroughly experienced Superintendent for Manufactured Gas Property located in the South. Present output approximately three million cubic feet. Applicant must understand coal gas manufacture, have excellent personality, and be able to increase the business. The city has a population of about 20,000. State age, experience in full, references and salary required. Address A. G. A.
Key No. 066.

HOME SERVICE—A large operating company in the East, which is increasing the Home Service Departments of its gas and electric companies, desires to secure the services of several young ladies who have had the following Home Service experience in the public utility business: Gas and electric cooking, minor maintenance of gas and electric appliances and public relations work. The positions in question will require some traveling and offer a wonderful opportunity for advancement. State age, experience and salary desired in first letter. Address A. G. A.
Key No. 067.

WANTED—A large Eastern Company, operating a number of gas and electric properties, desires to employ a young man or young lady to assist in the General Office of the New Business Department. One who has had sales, newspaper, advertising and public relations experience in the public utility business, as well as knowing how to compile and maintain all records and data pertaining to the Department. Good salary and wonderful opportunity for advancement in a progressive organization. State age, salary expected and past experience. Address A. G. A.
Key No. 068.

## SERVICES OFFERED

WANTED—An executive position in Commercial Department. Young married man with 12 years' experience and a thorough knowledge of gas and electric accounting. Moderate salary desired. Available on reasonable notice. Address A. G. A.
Key No. 191.

INDUSTRIAL ENGINEER available on short notice. Nine years' experience in industrial and commercial department supervision. Record and references will be furnished. Address A. G. A.
Key No. 192.

WANTED: Position by a Gas Engineer with twenty-three years' experience in all branches of the gas business and who has had experience in plant efficiencies and gas distribution problems. His connection with a strong operating company would make him a valuable man for a holding or a large operating company owing to his ability to reduce manufacturing and distribution costs. Would prefer position in the East. Address A. G. A.
Key No. 193.

PROGRESSIVE GAS MANAGER, with University training, at present employed, desires change; am married and man of family; have sixteen years' experience coal and water gas manufacturing, high and low pressure, construction and distribution. Desires connection with gas company with daily sendout of from one to two million cu.ft. Am a go-getter as to industrial new business. Best of references. Address A. G. A.
Key No. 195.

PUBLIC UTILITY EXECUTIVE, with broad experience in engineering, management and finance desires position. Offers character, integrity and ability with service. Address A. G. A.
Key No. 196.

WANTED—Position as Manager or Engineer for gas or gas and electric property by practical Gas Engineer thoroughly conversant with management problems, rates, industrial business development, design, construction and operation of coal and water gas plants, high and low pressure transmission and distribution. Considerable experience with electric power plants and natural gas properties. Technical education and twenty-two years' experience, fourteen years of which have been in gas and public utility work. Address A. G. A.
Key No. 197.

OPERATING ENGINEER desires communication with a utility property requiring the services of an operating engineer. Property either electric or gas or combined preferably in a medium size city with 25,000 customers or upward. Location preferably north central State or Canada. Position general superintendent or manager. Have had twenty-one years active contact with operating problems of diversified nature in electric, gas, water and telephone utility service as cadet engineer, superintendent of distribution, chief engineer, general superintendent and manager. Am at present employed. Address A. G. A.
Key No. 198.

WANTED: Position as manager or superintendent of a coal, water or combination gas plant, by a technical man, thirty-five years of age, with thirteen years' all around gas experience. Services available upon reasonable notice to present employer. Address A. G. A.
Key No. 199.

MAN, 43 years of age. Over 20 years' experience in the gas business handling fitting, main, service and meter departments of large eastern gas company, sales, production and cost accounting in an allied industry. Studied mechanical engineering and gas engineering course of the American Gas Institute. Can furnish excellent references and fidelity bond. Available upon short notice. Address A. G. A.
Key No. 200.

POSITION—Sales Manager of new business on Domestic, Hotel and Industrial appliances, desires similar position with promising future. Fourteen years' experience from shop through all commercial departments of one of the largest Utility Companies on the East. Thirty-six years old. Single. Services available in two weeks. Address A. G. A.
Key No. 201.

TECHNICAL MAN—(34) desires position as manager or superintendent of gas plant in city of 20,000 to 50,000 population; have had twelve years' experience in gas business of which last six have been as manager of gas properties; experience as superintendent of high and low pressure distribution; business and technical education; married; available immediately; references from present and former employers; prefer South. Address A. G. A.
Key No. 202.

POSITION WANTED—High grade specialty salesman, specializing in sales of gas-fired boilers and automatic water heaters for past 15 years, will be open for sales position with manufacturer or gas company October 1, 1925; thoroughly conversant with all phases of water heating and house heating; best of references from past and present employers together with details of ability will be submitted; road experience, no objection to travel. Address A. G. A.
Key No. 203.

WANTED—Position as manager of relatively small gas company or as engineer of larger property. Coal or water gas. Young, technically trained engineer (chemical and mechanical) with 10 years' unusually broad experience in all phases of industry, including manufacture, commercial and industrial, wishes to locate with property in need of man who can show the kind of results that mean increased net earnings. Address A. G. A.
Key No. 204.

# Advisory Council

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